The OIL WEEKLY

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THE WEEK'S NEWS INTERPRETED

JAN 20 1945

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THE OIL WEEKLY

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LOOKING AHEAD
... with the Editor

OBSERVANCE of a few fundamental principles pertaining to care of cooling systems of oil field multicylinder pumping engines, pays big dividends in helping to keep such equipment in tip-top operating condition.

If an engine gets too hot, at least eight disastrous things may happen. On the other hand, equally serious results will follow when the engine runs too cold.

To avoid these troubles, the cooling system of engines must be kept in perfect condition, like new, at all times.

Preventive maintenance of this part of the engine is not usually checked as closely as it is on other parts, and research has shown that much engine trouble can be traced back to failure of the cooling system to keep the engine operating at proper temperatures.

In an article titled "Preventive Maintenance on Cooling Systems of Oil Field Multicylinder Engines," Joe A. Huitt, superintendent of shops for the Deep Rock Oil Corporation, will discuss the problem of correct operation of the cooling system on oil field engines, in a forthcoming issue.

Written from a practical viewpoint, the article is based on the writer's experience, and is presented in easy, readable style, yet retains the character of a technical discussion.

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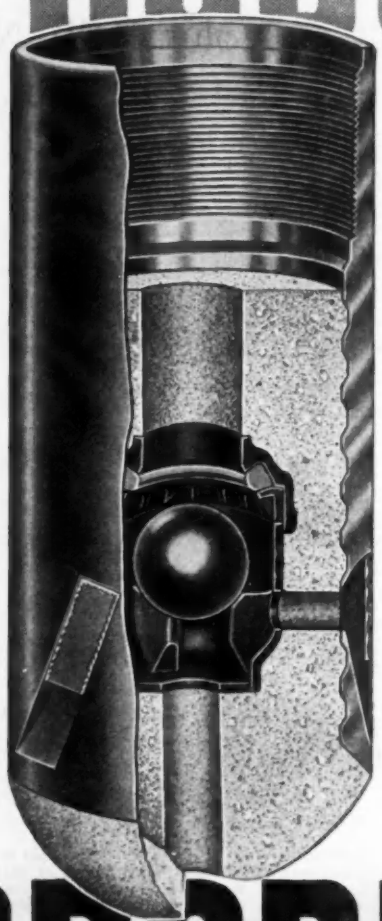

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The Changing Panorama

Attending Dangers Of Kilgore Proposal

THE Kilgore bill, otherwise known as Senate Bill No. 702, is being attacked by a considerable number of students of it on the grounds that it will, if passed, confiscate private property and destroy free enterprise by regimentation.

Title of the bill is "A bill to mobilize the scientific resources of the nation, to establish an office of scientific and technical mobilization, and for other purposes."

In the January issue of *Mining and Metallurgy,* Anthony William Deller charges that the bill "is designed to authorize the complete socialization of all forms of property, plans, methods, and technical information, of all industries and all personnel devoted to scientific and technical effort. The office of administrator proposed by the bill would give to a single officer, and by vague and indefinite phrases would enormously expand the express powers conveyed."

These are serious charges, and they certainly deserve the support of all who believe in the right of an inventor to his invention through patent, with all the attending privileges.

Many oil companies and practically all manufacturers have become great through their research protected by patents. An urgent step is to communicate with your senator in Washington, ask him for a copy of Senate Bill No. 702, read the bill until you are familiar with its provisions. Then if you agree with those opposing it, tell your senator so and urge that he vote against the passage of such a bill. In addition, advise all with whom you come in contact to get in touch with their senator about the bill.

☆

"Just what do we mean by freedom? Is it something complex? Is it political? Is it difficult to understand? Certainly not. In simple language freedom is your home, radio, automobile, refrigerator, your golf score and the right to brag about it, your private special brand of beverage, cigar or cigaret, the privilege of grumbling and growling about things you don't like—that is freedom. Easy to understand, difficult to obtain and almost impossible to maintain."

—DR. HOWARD E. FRITZ,
Director of Research,
The B. F. Goodrich Company.

My experience in American business, my travels around the world, and my conversations with all kinds of people in all kinds of countries have taught me one thing—that the principal solution to our postwar economic problems lies in an expanding economy.

—ERIC JOHNSON,
United States Chamber of Commerce.

☆

Gasoline From Gas At 5 Cents a Gallon

IMPROVEMENT in the Fischer-Tropsch process that brings gasoline synthesis from natural gas definitely within the range of successful commercial operation by the American refining industry, is announced by The M. W. Kellogg Company, petroleum and chemical engineers of Jersey City, New Jersey, and New York. According to the announcement, this new development makes possible the production of gasoline with a clear octane number of 75 motor (83 research) from natural gas for about 5 cents per gallon. The process is said to be equally adaptable to the economical production of high cetane diesel oil.

The 5 cents cost, it is said, is based on natural gas at 5 cents per thousand cubic feet and a plant depreciation rate of 10 percent per year. The gasoline produced can be easily leaded to 80 motor (89 research) with 1 cc. T.E.L. for postwar consumption.

Based on many years of technical exploratory and development work in the Kellogg laboratories in Jersey City, the new Kellogg method successfully overcomes the problems of heat dissipation and accurate temperature control. By this new process, a yield of 80 percent of 75 octane motor (83 research) gasoline is obtained as a major product compared with the pre-war European yields by the then existing methods of 30 to 40 percent of gasoline of approximately 25 octane number. The Kellogg Company now is prepared to build hydrocarbon synthesis plants employing this process.

Designs for synthesis plants as developed by Kellogg now utilize natural gas which is doubtless the most favorable source as long as large volumes are available. However, the basic constituents can be obtained from low grade coal or other low cost, high carbon content materials when and if the supply of natural gas is no longer adequate.

Rehabilitation to Call for More Oil

IT IS certain that oil and its products will be required in much of the rehabilitation work following end of the war. Reconstruction, and development of new industries in many countries with resulting new industrial installations will call for fuel and power much of which can be supplied by oil.

What is proposed in China, for example during the first ten years following the end of the war, is an indication of how extensive the demand for petroleum or its products may become.

Lee Fah Yih, assistant to the executive director of the China Institute in America, speaking recently in New York, before the annual meeting of the American Society of Mechanical Engineers envisaged China's postwar job thus: "In the ten years immediately following the end of this war, we will have the following main tasks to perform: To rehabilitate the Chinese industry and to establish new industries; to develop the natural resources in China, which have been discovered but cannot be developed due to lack of equipment and machineries; to extend the transportation system, to provide adequate transportation for the distribution of China's products; to rebuild the ruins of the war; to establish the public utility systems throughout China, which will include the water supply, electricity, etc."

Fantasy With Russian Admixture

NEWSPAPER columnist Drew Pearson's article in the current issue of *Cosmopolitan,* on predicting things to come during 1945, has drawn criticism from the Pennsylvania Grade Crude Oil Association. Pearson said, "We shall actually import oil from Russia and store it in the depleted, non-porous oil wells of Pennsylvania."

"Entirely unrealistic," is any such possibility, says the Association. Billions of barrels of top quality crude oil remain in the sands of the Pennsylvania grade region, Pearson was told, and in the opinion of the association spokesman, "it would be folly to import Rus-

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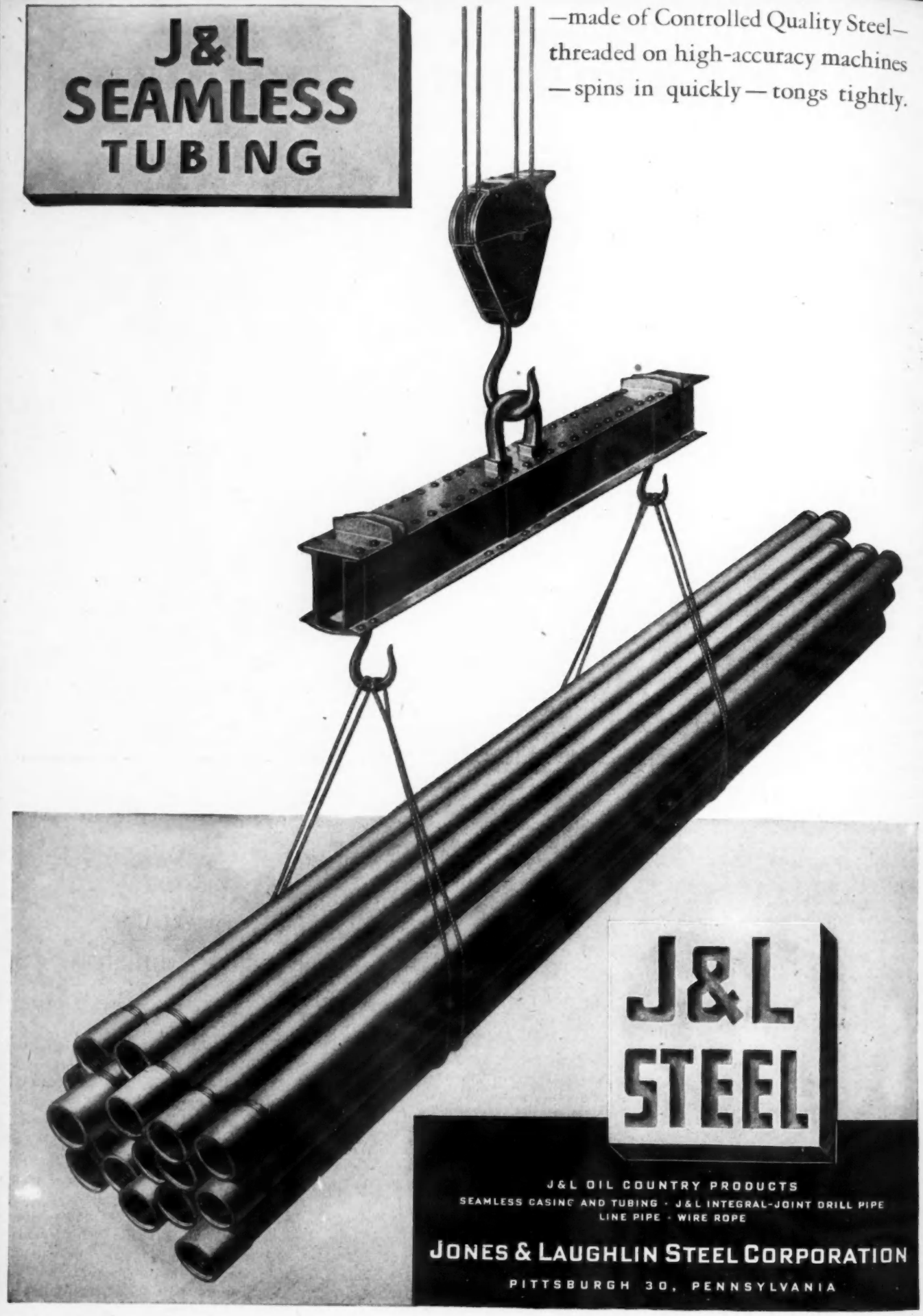

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sian oil and try to store it underground there."

The whole idea sounds a bit like a creation from the mind of Orson Welles, fantastic to say the least. A number of practical reasons why the proposition is unrealistic are pointed out by the Pennsylvania Association, among them being: the estimated cost of the Russian-Pennsylvania admixture would exceed greatly the present price of Pennsylvania grade crude at the well. More serious to the nation would be the inevitable contamination of the Pennsylvania grade crude, highest priced in the United States because of its rich lubricating content, with the poorer quality Russian oil.

Need for Industrial Public Relations Work

A SCIENTIFIC sampling of public opinion recently revealed that the reputation of a large American industry was amazingly sub-standard among younger people in a certain state. Search for an explanation of this surprising and deplorable situation led to the textbooks used in the public schools of that state, which were found "to present the industry quite inaccurately, in a rather disreputable light."

Industry has been pre-eminent in its contributions to American economic and social life, yet textbooks seldom discuss the constructive contribution of business to American economic and social life. More of business, especially "big business," is shown from the "robber-baron" viewpoint. Oil is one of the industries which has suffered by this.

This broad conception of industry is an aspect of public relations which has had little attention, as compared with the effort to obtain favorable and accurate representation in the daily newspapers.

"When a newspaper reports industry inaccurately," states *Railway Age* in reporting the experience mentioned earlier, "no great harm may be done if such errors are not repeated—but when a standard textbook or reference works shows us, even once, in a bad light, the harm just never ceases. The error becomes the standard belief of a generation of students. Industry has largely overcome the misinterpetation which arose before it made industrial information easily accessible to the press, but it still has before it the equally important job of achieving accurate interpretation at the hands of the writers of books."

To bridge this mutually-injurious chasm between responsible scholarship and useful industry, an informal movement, which is gaining headway, is now current to effect a closer liaison between the two groups, both of whom should desire truthful facts presented. Information as to what has been accomplished in this direction, and how individual business organization may go about doing its part, may be had by any industrial executives or public relations officer upon inquiry to the following: Stanley Pargellis, Newberry Library, Chicago; Thomas C. Cochran, New York University, New York; Arthur H. Cole, Baker Library, Harvard University, Cambridge, Massachusetts; R. Norris Williams II, Pennsylvania Historical Society, Philadelphia, Pennsylvania.

☆

When American labor, American industry and our citizens generally, fully understand its proved virtues and its place in American life the necessity for the continuance of the American patent system in the postwar period will not be challenged.

—GEORGE I. HAIGHT,
on "Patents and the Public Interest," before the War and Reconversion Congress of American Industry.

Hedging on 1945 Drilling Program

THE old adage about coming events casting their shadows can sometimes be applied very aptly. Shadows cast by events of 1944 may fall heavily on the oil industry this year. It need be no surprise if conditions get progressively worse for awhile before they get better.

This is no pessimistic or gloomy hangover from a too hilarious New Year celebration. The thought is inspired by the cold appraisal of the way some companies are iooking at things right now. For instance, Continental Oil Company in commenting on its drilling activities during 1944, puts down this condition: "A majority of the prospects we have or will have drilled during 1944 have been under exploration or title examination from three months to two years, and we have just now reached a point in our prospecting where costs of exploration and exploitation will force us to take more than a casual look at our hole card before committing ourselves, or await the day when the price of crude justifies a large number of ventures."

Though we haven't seen such a statement from other companies in black and white yet, it is a certainty that much drilling and exploratory activity during 1945 will be hedged by the same conditions.

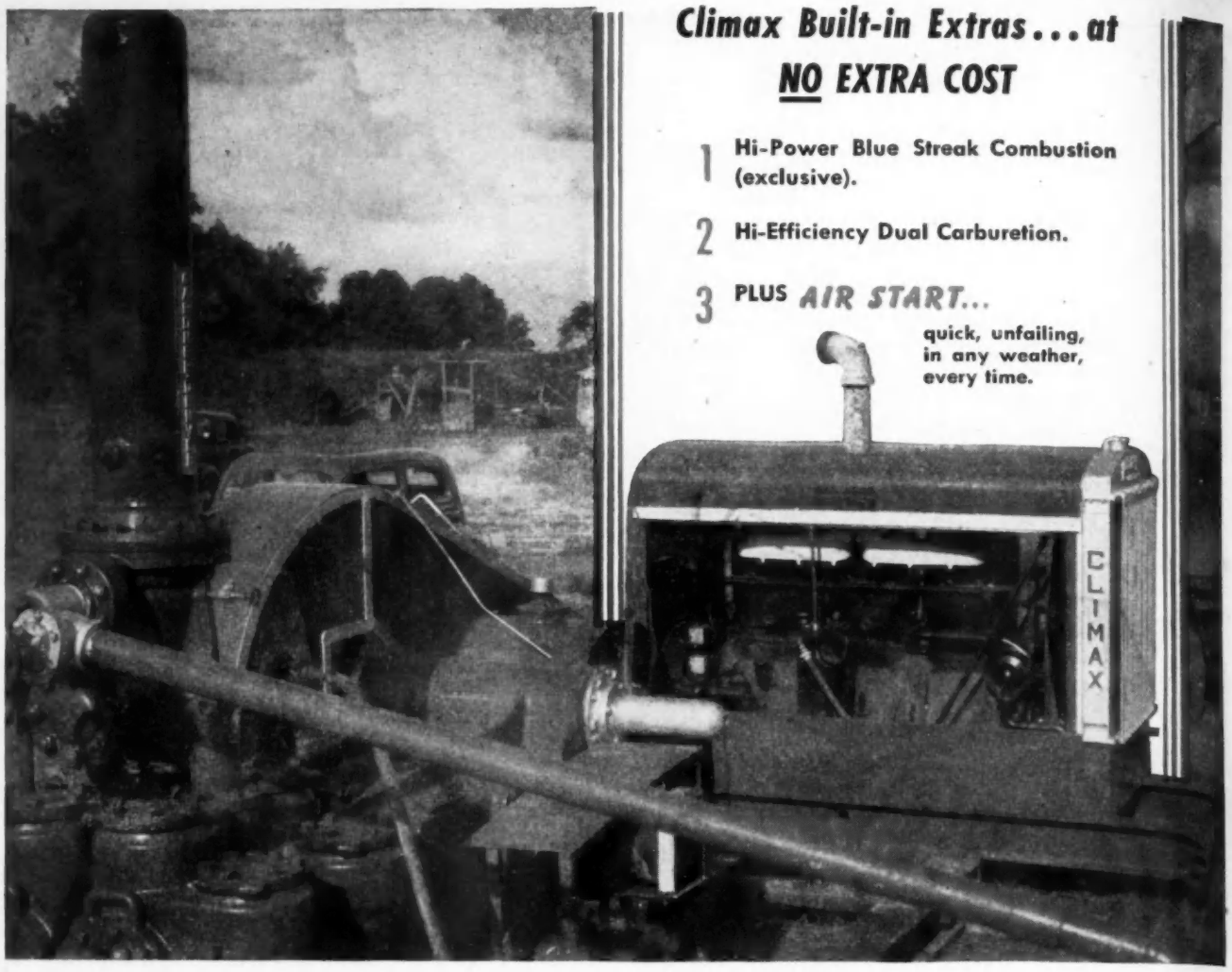
Keeping Oil Men in Touch With Claims

LEADING the 1944 hit parade among oil men now in the armed services is the pony or overseas edition of THE OIL WEEKLY which is sent free of charge each month to some 6300 uniformed men.

This high rank in what oil the man, now on "service leave," likes to read is judged not by presumption or hazy reports, but instead by actual letters written on battle fronts the world over commending the editors for "helping us to keep up with what's going on in the industry to which we will return as soon as this job is done." An interesting article could be presented in each regular issue of THE OIL WEEKLY giving excerpts from these letters, but restricted space is better given to technical, news, and other discussions. But here's one, thoroughly typical, that we would like to share with all of our readers. From Lt. Colonel Robert B. Collier, who served with the Garrott Brass & Machine Company from 1936 to 1940, and dated December 21, it follows in part:

"Better than four years have now passed since the day I checked it to the roughnecks and drillers and departed for active duty. Many changes have been made in the field during that time, both in your oil field and our battle field. However, as I go about my job today as a field artillery battalion commander, slogging in the Italian mud, enveloped in a milky winter mist, my spirit is pretty high. Why? Well, you see today I received one letter from home—THE OIL WEEKLY. I have read every word in the pony edition as though I was an oil operator. Didn't know one single person mentioned in the whole paper. But here is the point: the names and places I remember well; the Louisiana swamp locations, out in the salty Gulf of Mexico, West Texas sands and a thousand others; the fact that Texas produces more oil than the other states. All this news I read and enjoy as if I owned the best production in the world. I claim to be a part of it all and the pony edition, coming all the way from Houston, tells me about my claim."

It was to serve just such a need that the publishers of THE OIL WEEKLY last September decided as one contribution to the war effort to mail gratis the monthly overseas edition free of charge to every service man formerly connected with the oil industry. That it has hit the spot with these fellows in the armed services is reward grander than for which few could have hoped.



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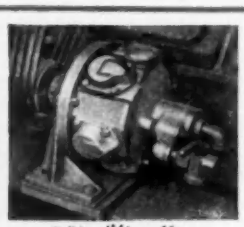

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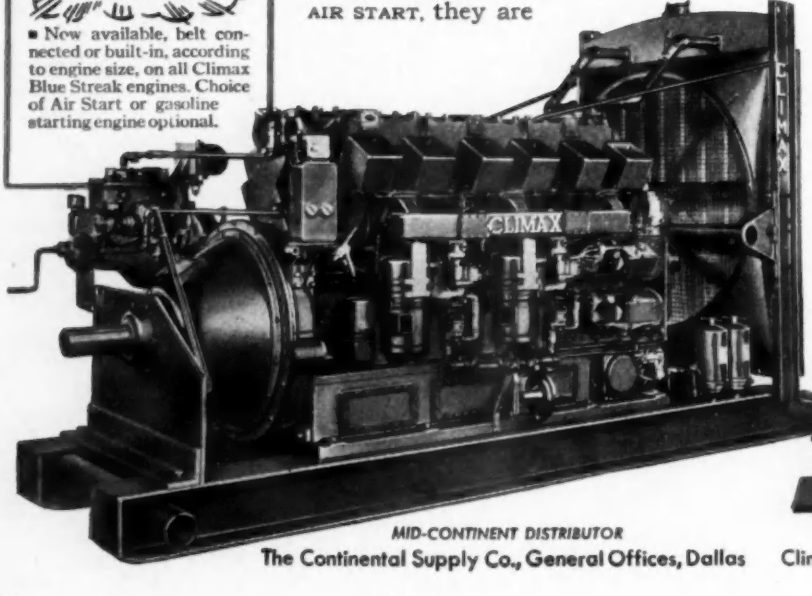

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WASHINGTON ROUNDUP

By BERTRAM F. LINZ, Washington Correspondent

FOLDING up with the end of the 78th Congress, the special House petroleum investigating committee last week submitted its final report, outlining legislation for consideration by the new Congress in dealing with oil problems.

House Committee Recommendations—Among other things, the committee suggested that Congress reverse the Internal Revenue Bureau ruling requiring that certain geological and geophysical expenditures, formerly charged off as expenses, be capitalized; that delays and inconsistencies in the handling of material requirements for foreign operations be ironed out, and that a thorough investigation be made to determine the price problem in such a way as to insure a healthy industry.

Favors International Agreement—The committee supported the theory of international agreements on postwar oil problems, but did not specifically mention the pending Anglo-American agreement.

East Coast Tankers Threatened—War Mobilization Director Byrnes warned that tankers now serving the East Coast are likely to be withdrawn for military service in the near future, necessitating a new expansion of the rail movement. Tankers last year handled nearly one sixth of the oil going to the East Coast area, doubling the 1942 volume, but the rail movement was little more than half that of 1942.

Ship Program Expanded—The Maritime Commission expanded its tanker program to provide for an additional 60 oil carriers, many of which are to be delivered this year, as part of a greatly enlarged ship program necessitated by war developments.

FPC Gives Assurance—The Federal Power Commission assured the industry and the producing states that its natural gas investigation will not invade the fields of authority of the state officials. It charged that rumors of such an invasion were "stimulated by representatives of oil and gas companies."

Stripper Wells and Hot Oil—OPA and Defense Supplies Corporation were disclosed to be investigating recent increases in the output of pools receiving stripper-well premiums, with a view to assuring that subsidy payments are not being upped by the running of "hot" oil and will require operators bringing in new wells in the listed pools to certify that they are producing from authorized horizons. There is no contention that any illegal oil is being co-mingled with the stripper production but since a pool once certified receives subsidy payments for all oil produced, even though it tops the nine-barrel figure, the government just wants to make sure.

Oil Price Survey—In line with recommendations made by the House small business committee, a committee of producers has been named and will meet January 15 to draft a questionnaire that will seek data upon which OPA may base a study relating to crude and refined oil prices. Refiner members of the committee will be announced shortly.

OPA Investigation of Oil Prices Starts January 15; Committee Named

OPA's investigation of crude and refinery prices, undertaken in conformity with a recommendation of the House small business committee headed by Representative Wright Patman of Texas, will get under way January 15 with a meeting in Washington of the producers' committee which is to consider the method of making the inquiry and the form of questionnaire to be used.

Membership of the committee, largely drawn from the American Petroleum Institute, the Independent Petroleum Association of America and the National Stripper Well Association was determined last week, as follows:

John G. Pew, Sun Oil Company, Dallas; George Bays, Stanolind Oil and Gas Company, Tulsa; Raymond B. Kelly, Pure Oil Company, Olney, Illinois; A. C. Rubel, Union Oil Company of California, Los Angeles; Dr. W. B. Emery, Ohio Oil Company, Findlay; Dana Kelsey, Sinclair Prairie Oil Company, Tulsa; Charles F. Roeser, Roeser and Pendleton, Inc., Fort Worth; J. D. Sandifer, Jr., Breckenridge, Texas; N. W. Shiarella, Miller and Schiarella, Owensboro, Kentucky; Edwin W. Hayes, Independence, Kansas; C. P. Watson, Seaboard Oil Company, Los Angeles; W. H. Morgan, R. R. Bush Oil Company, Long Beach, California; Howard J. Whitehill, Whitehill Oil Corporation, Tulsa; J. P. Coleman, McCarty and Coleman, Wichita Falls, Texas; Major B. A. Hardey, chairman, Louisiana Minerals Board, Shreveport; Merle Becker, W. C. McBride, Inc., St. Louis; Gilbert J. Muller, Argo Oil Company, Denver; E. B. Reeser, Barnsdall Oil Company, Tulsa; J. P. Jones, Bradford, Pennsylvania; H. M. McClure, Alma, Michigan; E. P. Potter, Esmerada Petroleum Company, New York; Carl P. Reistle, Humble Oil and Refining Company, Houston, and James W. Johnson, Consolidated Gas Company, Shelby, Montana.

To Name Refiners

An industry committee is also to be appointed from among the refiners, to assist in the study of refinery prices, the membership of which will be determined this week and a date set for a meeting.

Meeting just in advance of the session of the PIWC, the committee will find itself confronting a very involved problem, OPA officials said, more difficult than that of the committee from the refining branch, whose activities are well documented and for which quite complete figures are available.

The most difficult question for immediate consideration, it was said, will be the questions to be included in the questionnaire to bring out a complete picture of the costs of the producing branch of the industry. Also to be considered is the proportion of the producers to be covered by the study, which is to be made on a sample canvass rather than a study of all operators.

With the OPA investigation actively under way, the Independent Petroleum Association of America was expected to defer the filing of its protest and petition for a general 75-cent increase in crude oil prices. That plan, for which the IPAA has been asking powers-of-attorney from the individual operators to act as their representative, an OPA regulation forbidding direct negotiations with trade associations, was formulated before the price administration had taken any steps to launch its investigation.

When the OPA study was announced, however, it was brought to the attention of the association that the rules require the agency to deal with all protests within a period of 30 days, and it was

stated that if the petition was filed it might be impossible to go ahead with the study, which will require much longer. It was suggested that if the petition was brought in, OPA would consider suspending the study and call upon the association to provide the information which would have to be considered—the same information as is to be developed by the investigation.

To Hold Up Petition

Since the petition can be filed at any time, and in fact could be used after the investigation as a sort of appeal from any facts which the association desired to challenge, it was decided, after several conferences with OPA officials, not to bring it in by January 15, as originally planned, but to await the results of the committee meeting to decide whether it should be deferred indefinitely.

Meanwhile, at OPA, Orville Judd, associate director of the fuel price division, expressed the hope that the investigation will provide an adequate basis for final determination of the long standing question of the adequacy of present price ceilings.

"We are more than anxious to have a survey made which is factual and complete," Judd said. "We are as anxious as the industry to have the facts. We believe that the facts which we have operated on were true and we have proceeded on that basis, but if those facts are not true, it is incumbent upon us by law to see that we have the right facts because we are required to treat industry generally in a fair and equitable manner.

"Practically every man in this division is from the industry. Naturally, we have a job to do to control inflation. But on the other side we want to see the industry maintained in a healthy condition."

Judd Explains Policy

Judd emphasized that a major effort of his office has been to inject the government into the field of oil operations as little as possible, and pointed out that to that end the stripper-well plan and the newly developed high-cost relief program have been so devised that the producers have no direct contact with the government, their subsidy payments coming to them through the purchasers of their oil.

The subsidy program will end with the termination of the war emergency, he said, and it is planned to leave the industry at that time entirely free of any intanglement with the government.

Murray Heads Group to Investigate Gas Waste

Plans to investigate gas waste in Texas were announced by Railroad Commission Chairman Beauford Jester last week. A committee of engineers from the operating companies is to make the investigation. W. J. Murray, Jr., engineer for Wheelock and Collins of Corsicana, has been named chairman of the committee. He suggested the plan at the last statewide hearing.

Jester said that engineers of other companies were invited to join the group.

About 20 fields would be investigated first, and thereafter the commission would hold a hearing on each field to determine whether rules are needed.

House Group Suggests Legislation Of General Aid in Oil Exploration

Expansion of wildcatting, supported by congressional action reversing the Internal Revenue Bureau ruling that certain geological and geophysical expenditures be capitalized instead of charged off as expenses and encouraged by a proper price structure, was urged January 2 in the final report of the House special petroleum investigating committee.

Foreseeing that the need for maximum production, refining and transportation of oil will continue, the committee heartily commended PAW, the PIWC and the "government-industry" partnership, but warned that the United States must not lose sight of the vital necessity of an adequate supply of oil in the years to come.

To meet present problems, the report recommended that the burdensome routine and delays which it found in obtaining materials for foreign operations and the license to export be corrected, and, that as soon as necessary clearances can be granted, oil-industry personnel be permitted to return to liberated European areas to rehabilitate vital petroleum facilities.

Conservation Not Possible Now

Reviewing the production situation, the committee pointed out that our oil fields are producing to the limit of their sustained capacities and some fields in Texas and California in excess of their maximum efficiency, but saw no reason to believe that any conservation can be attained this year even though the war in Europe terminates.

The most pressing problem of the immediate future, it indicated, will be that of furnishing oil on the West Coast for the war in the Pacific, but it is expected that, with a programmed crude run of 850,000 barrels daily by refineries in the Los Angeles area, provided in part by increased rail movement of West Texas oil and additional output from the Elk Hills naval reserve, the West Coast crude supply can be kept in balance with maximum requirements through 1945.

The report paid considerable attention to the foreign production situation, explaining that, exclusive of Russia, the United Nations' program of foreign crude production calls for an output of approximately 1,670,000 barrels daily during the fourth quarter of 1944, about 375,000 barrels above the actual output in December, 1943.

The production of the Near and Middle East (Iran, Iraq, Arabia, Egypt and British India) was approximately 390,000 barrels daily in December, 1943, and is to reach 490,000 barrels for the final 1944 quarter, it said, while the production in the Caribbean area (Venezuela, Colombia and Trinidad) is scheduled to increase from 670,000 to 922,000 barrels in the same period.

U. S. Withdrawals Relieved

"The large relative increases in foreign crude production have been programmed with a view to relieving, so far as possible, the proportionately heavy withdrawals from the United States oil sources," it was stated. "Heretofore the physical limitations of transportation and refining capacity have prevented any greater utilization of foreign supply sources. For example, the availability of world tanker tonnage in relation to requirements has been such that all tanker allocations have, of necessity, been made upon the short-haul principle. In addition, it was not possible to inaugurate a large construction program of additional refining facilities now under way in the Persian Gulf area until the threat of Nazi supremacy in North Africa was removed.

"In part of the Middle East, primarily in Saudi Arabia, a large capacity to produce crude petroleum had been developed before the war, but facilities for transporting and processing the oil were inadequate for war purposes. In this area, additional pipe lines are under construction to permit the movement of crude petroleum from the field to refineries where substantial additional capacity is being installed.

"In the Caribbean area a substantial amount of productive capacity also has been developed in excess of current requirements, but this excess capacity is chiefly in the heavier grades of oil which are less suited to the production of critical war products. It has accordingly been necessary to undertake the drilling of additional wells, chiefly in the fields producing the more desirable types of crude petroleum, to build and increase the capacity of pipe lines, and to add to other facilities required to move the oil either to export terminals or to refineries."

The burdensome delays and routine in obtaining materials for foreign operations were found by the committee to lie in the fact that two agencies are rival claimants for such materials, PAW for domestic operations and the Foreign Economic Administration for foreign, a duplication of effort which it criticized

Oil Companies Give Fund for Gas Research

THE University of Texas has announced gifts totaling $180,000 from a number of industrial firms, to be used for continued research by Dr. E. P. Schoch on his method for the production of acetylene and other by-products from natural gas. The funds are to supplement the budget for continued and expanded research on the process.

The companies contributing thus far include: The Chicago Corporation; Glen Rose Gasoline Company; Houston Oil Company of Texas; Humble Oil & Refining Company; Phillips Petroleum Company; Premier Oil Refining Company; The Pure Oil Company; Sinclair Refining Company; Sun Oil Company; Union Producing Company; and Magnolia Petroleum Company, and a number of acetylene and welding concerns.

as retarding and tending to lower rather than to promote efficiency.

Noting that new discoveries in 1944 probably will meet no more than half of the volume of crude produced in that period, the committee emphasized that the persistent decline in the volume of new oil discovered and the decreased discovery per well demonstrates the necessity of appropriate measures "to increase exploratory drilling to match our consumption, if possible."

"Such a program is desirable, both from the standpoint of a possible oil need in case of the indefinite postponement of victory, and also to provide a secure source of oil from the standpoint of a long-range supply of petroleum products," it declared.

However, it added, there is an admitted high cost at which the small operators cannot produce. But the early abandonment of wells cannot be justified, because their production is needed for current uses and for its ultimate conservation.

"This situation justifies a plan for higher prices payments to these small producers to save their product for the public need," the report declared.

Reasonable Oil Price Asked

"This committee has heretofore expressed its approval of proper prices to give the producer of crude oil a reasonable price for his product. We believe that the production of crude is an industry in itself, and that it should be placed on a healthy self-supporting basis in its own right, and not be made dependent upon a better income from the refining, transportation, or distribution phases of the oil industry.

"The government, through its appropriate agencies, has set up a subsidy plan which to a degree will encourage at least a limited number of marginal producers by affording them higher compensation for their product. The independent producers who are responsible for the major part of oil discoveries still bitterly protest what they regard as the inadequacy of the government subsidy plan.

"In any event, from the standpoint of preserving a healthy industry, prices must provide reasonable compensation and have a changing relation in proportion to costs. We suggest the importance of a further impartial and thorough investigation which would seek a solution of the price problem from that standpoint."

PAW, it was pointed out, has constantly urged the industry to expand its exploratory efforts and the industry has responded admirably. However, it was held, in order to offset the deficiency in discovery rate, industry must be further induced to make additional expansions.

Internal Revenue Ruling

"In the face of this urgency the petroleum industry has been confronted with an interpretation on the part of the Bureau of Internal Revenue requiring capitalization of certain geological and geophysical expenditures which had long been considered as expense items," the committee continued. "The petroleum administration holds that this interpretation was not required, is a reversal of a prior, long-standing interpretation, and has had the effect of impeding efforts to expand exploratory operations at a time when such activities are so highly essential. Despite its numerous representations, efforts to have this interpretation changed, even for the duration of the war, have failed.

"This situation may well deserve legislative attention by Congress."

Discussing the postwar importance of oil in improving the economic status of the world which "would be greatly benefited by a world supply of oil on terms that would make it widely used in all peace-loving countries," the committee, without specific reference to the Anglo-American agreement, recommended to the appropriate administrative agencies the desirability of developing international agreements "looking toward a world-wide use of petroleum products, on just terms to the producers; for the world benefit, without exploitation."

Oil's War Contribution

Commenting on the handling of the oil problem since Pearl Harbor, the committee, reporting that America's contribution to the military forces through the petroleum industry has been one and one quarter billion barrels of oil and its products—"a source of supply that gave a vitality to the military forces of the United Nations that could come from no other source."

"For this magnificent accomplishment," it said, "unstinted praise is due to the genius and productive capacity of the American petroleum industry, production and refinement; to all the transportation agencies concerned; to competent military planning, for supplies, for the right kind at the right time and at the right place. Much credit, too, is due to the governmental agencies whose planning and encouragement and coordination of activities made these results possible."

Specifically, the committee named and outlined the responsibilities of PAW, PIWC, the district industry committees, and the foreign operations committee.

Stripper-Well Eligibility Sought by Procedure Being Perfected by OPA

Price administration officials are developing a procedure for the determination of the eligibility for stripper-well subsidies of new wells brought in in certified pools, and forms for the reporting of such wells shortly will be distributed by Defense Supplies Corporation to the purchasers of stripper-well oil.

A provision of the subsidy regulations bars pools discovered after January 1, 1944, and the purpose of the new reporting system will be to provide a basis for determining whether new wells brought in in listed pools are in the horizon for which the premium payment is granted or in a new horizon which would be considered a new pool.

The forms will be filled out in duplicate and transmitted to the petroleum branch of the OPA by the producers owning the new wells. They will be simple in character, calling only for the depth of the well, and the location of the well and the lease, and a certification that the well produces from a horizon producing before January 1, 1944, or a horizon subsequently authorized.

In the majority of cases this form as certified by the producer will be all that is necessary, but where a new well is drilled outside the geological limits of a pool as defined, it will be necessary to obtain a certification from the state authority that it is actually within the confines of the pool.

One purpose of the new regulation will be to afford a check upon increased production from the subsidy pools. OPA officials explained that once a pool is certified for premium payment it remains on the list even though its production increases due to secondary-recovery or other operations designed to raise its production, but if there is a sudden very substantial increase in output, it is necessary to check to assure that it is due to the increased developmental or secondary-recovery work which the subsidy is designed to encourage, and not to "hot" oil brought in from another horizon or pool.

Although a pool has to show a production of less than nine barrels daily per well in order to qualify for the subsidy, it was emphasized, the payments are continued even though output goes beyond the nine-barrel level as a result of the producer's efforts.

High-Cost Applications

Approximately 175 applications have so far been received for subsidy payments for high-cost production in low-cost pools, and the first of these is expected to be approved in order for payments to start February 1.

Initial calculations of the cost of the stripper-well premium plan indicate that it will come within a few thousand dollars of the $55,000,000 a year which petroleum branch officials estimated when they drew up the plan.

Several additional pools were made eligible for the premium, effective January 1, including two where the operators applied for relief under the high-cost plan but were found to have production of less than nine barrels daily per well, which threw them into the stripper-well class. OPA officials are asking that operators filing applications for high-cost relief show their annual production, saving the time and correspondence otherwise necessary for the OPA to get such information which, it was pointed out, may delay the granting of the application and cost the operators a month's premium payments.

The first 1945 changes in the stripper-well list, effective from the beginning of the year, includes the following:

Added: Kimbro pool, Travis County, Texas, 35 cents per barrel; Cement West, Noble-Oleson sand, Caddo County, Oklahoma, 25 cents; Gray, Calvin sand, Pottawotamie County, Oklahoma, 20 cents; Clay, Webster County, Kentucky, 20 cents; Tyrole east, Seminole County, Oklahoma, 25 cents; Tyrole, Seminole County, Oklahoma, 20 cents; Ball, Payne County, Oklahoma, 35 cents; St. Louis north, Pottawatomie County, Oklahoma (originally a high-cost application), 25 cents; Hillsdale, Garfield County, Oklahoma, 35 cents; Nelagoney, Osage County (high-cost application), 25 cents; Seminole northeast, Seminole County, Oklahoma, 25 cents.

Changed: Emperor (deep), Winkler County, Texas, from 20 to 25 cents.

Anglo-American Oil Agreement Due For State Department Action Soon

Industry proposals for revision of the Anglo-American oil agreement will be acted upon by the State Department in the near future, with a study by Charles B. Rayner, petroleum adviser, reportedly showing no insuperable barriers to adoption of the principles urged by the PIWC committee.

There are only three points to be ironed out, only one of which—the industry's desire for protection against anti-trust prosecutions for concerted action on any government recommendations under the treaty—being considered of major importance.

Department officials were represented as seeing justification for the industry's desire for protection against the Department of Justice but as somewhat puzzled how to get the necessary safeguard into the treaty, it being pointed out that it means the injection of a purely domestic matter into an international agreement.

British Objection Unlikely

However, in view of the fact that the British representatives negotiating the original agreement evinced no interest in the final provision of the document, setting forth the manner in which this country would ratify, it is believed the London government would, when approached, express its indifference to inclusion of an anti-trust provision.

It will be necessary to come to some agreement with the industry over its definitions of "United States" and "United Kingdom," which classified oil from Alaska as domestic but oil from Trinidad as international and a proposed provision that the agreement shall not preclude a signatory government from limiting its imports of oil, but neither of these is seen in State Department circles as raising any great difficulty.

Beyond this, the department is understood to be receptive to the industry proposals and preparing to put them into form for presentation to the British government. At the same ime, here is some feeling that the agreement has been weakened, although it is admitted that it is impossible to write general principles which will meet all particular circumstances.

On the whole, the sentiment appears to be that whatever may be lost in the revision, if anything, will be more than offset by the industry's approval and its subsequent more whole-hearted cooperation.

The problem of putting the anti-trust provision into the agreement will be submitted shortly to the department's legal staff. No indication has been given of any desire to dodge this issue, and it is agreed in informal conversations that, after its experience with the Department of Justice in the Madison case, the industry has ground for its desire to avoid another prosecution by one branch of the government for doing what another branch of the government requests.

It is not believed that the department will attempt to provide any general immunity from anti-trust prosecutions, but it may develop a provision that any program developed under the treaty be submitted to the Department of Justice for clearance as is done now with programs developed by PAW and other war agencies.

Surplus Drilling Machinery Moving into Private Hands

Well and blast hole drilling machinery transferred to the Reconstruction Finance Corporation for disposal as surplus war goods is moving into private hands quickly, it was disclosed last week in a report showing that of $268,013 worth of such equipment, machinery costing the government $236,606 has been disposed of, $204,168 being received for it. The remaining $31,407 worth, it was said, is still available for sale at Los Angeles.

The RFC also has $123,017 worth of refinery machinery and equipment, none of which has yet been sold, of which $112,825 worth is at Los Angeles, $7825 at New Orleans and $2367 at New York.

In the field of products, the RFC has $978 worth of gases, including liquefied petroleum gases, at New York; $159 worth of gasoline blending agents at Chicago; $37,929 worth of naphtha, solvents and finished light petroleum products, $20,723 of it at Chicago, $12,000 at Kansas City and the rest, in small quantities at Boston, Cleveland, New York, Omaha, St. Louis and San Francisco; $7 worth of kerosine; $30 worth of fuel oils, and $170,707 worth of lubricating oils and greases, in amounts ranging from $56 to $30,412 at 17 of its field agencies.

Bimel New Vice President Of International Petroleum

F. B. Bimel has been elected a vice president of International Petroleum Company, Ltd., Toronto, Ontario. A director of International Petroleum since 1928, Bimel has been closely associated with the producing and pipe line end of the oil industry.

F. B. Bimel

In 1904 he joined Prairie Oil and Gas Company in Kansas City as general foreman of pipe line construction, and superintended the laying of the first pipe line east from the Mid-Continent field. Later, he was transferred to the Ohio Oil Company and then to Illinois Pipe Line Company.

On completion of the line to Bayway, New Jersey, Bimel joined Standard Oil Company of Louisiana in 1909. In 1915 he was producing assistant in the Caddo district, Louisiana, three years later taking charge of the gasoline department. Transferred to Standard Oil Company of New Jersey in 1922, he organized a system of recovery of light ends which helped with the oil industry's conservation program. He joined International Petroleum in 1928.

Half of Oil Companies Have No Taxable Income

Less than half the 4496 oil and gas-producing corporations which filed federal tax returns for 1942 had taxable net income in that year, it was disclosed last week by the Treasury Department.

However, the department reported, the 2087 corporations which did show tax liabilities had total compiled receipts of $488,579,000 and net income of $72,309,000, paid income taxes aggregating $19,690,000 and declared value excess profits taxes of $111,000 and had income of $9,532,000 subject to excess profits tax, the amount of which was not tabulated. These companies paid dividends in cash and assets other than their own stock in the amount of $46,860,000, it was stated.

Another 2078 returns showed no net income, having total compiled receipts of $186,359,000 but, after deductions, a deficit for tax purposes of $28,508,000. While these companies showed no net income, they paid dividends aggregating $6,184,000.

The remaining 331 corporations were not actively in business during the year. The department summary showed that the reporting corporations received a total of $671,000 in interest on government obligations, less the amortizable bond premium, and $8,696,000 in dividends from stock of domestic corporations held by them.

Bureau of Mines January Mark Is 4,738,700 Barrels

A domestic production of 4,738,700 barrels of crude oil daily will be required to meet market demand this month, it was forecast last week by the Bureau of Mines. The bureau's calculation was 14,000 barrels daily above the PAW certifications of 4,724,700 barrels for the month.

Output for 1944 was estimated by the bureau at 1,678,000,000 barrels, an increase of about 11 percent over 1943, with demand for domestic crude at approximately 1,700,000,000 barrels, indicating a decline in domestic crude stocks of about 22,000,000 barrels for the year.

Daily average demand rose steadily through the year from 4,478,000 barrels in the first quarter to about 4,740,000 barrels in the final three months, and the bureau forecast that for the first quarter of this year it will run about 4,730,000 barrels daily, assuming a moderate decline in production and a corresponding reduction in domestic stocks.

The bureau's latest production statement showed a slight drop in output in October, resulting chiefly from reductions in output of 21,000 barrels daily in Texas, 7000 barrels in California and 5000 barrels in Kansas, partially offset by gains in other areas, as in Louisiana where a new record of 358,000 barrels daily was reported. Output in October dropped to 4,740,000 barrels daily from 4,766,000 barrels in September.

The report showed that the Bureau of Labor Statistics' price index for petroleum and products remained constant at 63.8, compared with 63.5 in October, 1943, and that the operating ratio indicated by the 4,938,000-barrel crude oil capacity represented by the refinery data in the report, was 94 percent, compared with 90 percent in October, 1943, and 82 percent in the same month in 1942.

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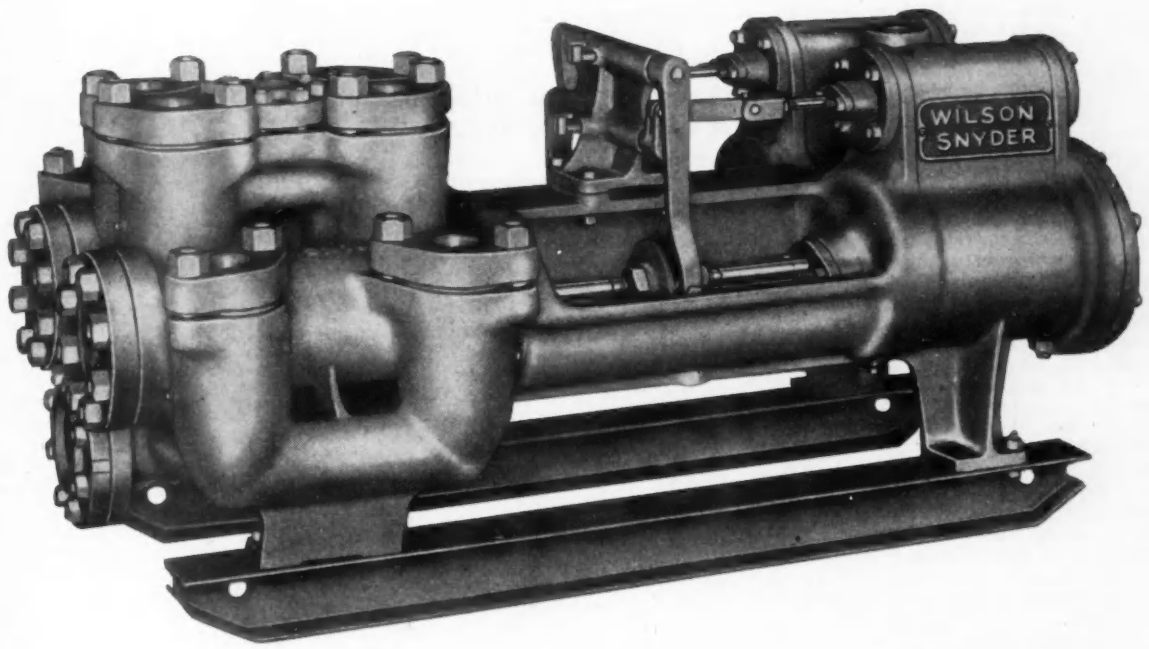

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Continuation of Lea Committee and Other Oil Matters Confront Congress

Congress returned to Washington last week to face a schedule of legislation which is expected to keep it in session for many months.

As in the past three years, little legislation will be taken up which does not have a bearing on the war, but this session will project its thoughts into the era following the victory over Germany and preceding the defeat of Japan.

The most important matter on the congressional schedule of course, is the appropriations for conduct of the war and operation of the government establishment, but it is expected that much time will be devoted to transition problems, including the Dumbarton Oaks peace terms, possibly an overhauling of the social security program, additional bonuses and jobs for returning service men, permanent compulsory military training, the growing debt, refinements and improvements in the surplus property law, and questions of taxation.

In the field of oil, Congress had before it the recommendations of the House special oil committee and some time in the not distant future the Senate may get a new version of the Anglo-American agreement for postwar world oil trade.

The opening of Congress saw the introduction of more than 700 bills and resolutions in the House. Those directly applying to oil including the following:

By Representative Ed V. Izac of California, a bill to prohibit interstate common-carrier pipe lines from transporting commodities in which they have an interest.

By Representative Wright Patman of Texas, a bill to prevent manufacturers of products from selling at retail and a bill providing for an excise tax on retail store.

By Representative Jerry Voorhis of California, a resolution to create a special House committee to investigate the petroleum industry and problems of petroleum supply. (Continuation of the Lea committee.)

By Representative Alfred J. Elliott of California, a bill providing that, in disposing of lands which have been acquired by the government for national defense of war purposes, a preference shall be given to the former owners of the lands of their successors in interest.

By Representative Voorhis, a bill for government financing of wildcatting and subsidy for stripper wells.

Oil and Synthetic Rubber Plants High on DPC List

More than 10 percent of all the money committed by the Defense Plant Corporation for the construction of war plants and facilities and the installation of machine tools has been expended on the oil and synthetic rubber programs, it was disclosed last week by the Reconstruction Finance Corporation.

Total commitments of DPC to the end of last year were $10,704,935,000 of which $757,656,000 has been cancelled and $7,177,700,000 disbursed.

Of the $9,947,279,000 net commitments, it was shown, the fourth largest share, exceeded only by aircraft, steel and aluminum facilities, went into the 57 synthetic rubber commitments totaling $715,000,000. There were 38 commitments for aviation gasoline facilities in the amount of $245,000,000 and $189,000,000 was provided for the six government pipe lines. The total commitments for rubber and oil were $1,149,000,000.

Tanker Program Enlarged To Meet Military Needs

Construction allocations for 226 new ships, including 60 tankers, to be built this year to meet urgent military needs were announced by the Maritime Commission January 3.

The new ships, it was stated by Vice Admiral Emory S. Land, chairman of the committee, will be built by yards which "have shown they can do the job."

Twenty of the new tankers will be built by the Sun Shipbuilding and Dry Dock Company, Chester, Pennsylvania; 17 at the Swan Island yard of the Kaiser Company; 12 by the Alabama Dry Dock and Shipbuilding Company, Mobile; nine by the Marinship Corporation, Sausalito, California, and two by Welding Shipyards, Inc., Norfolk, Virginia. The major part of the program is to be delivered this year.

A review of the deliveries of the individual yards released simultaneously by the commission showed that Sun Shipbuilding and Dry Docks Company turned out 69 tankers in 1944; the Kaiser Company, 64; Alabama Dry Dock and Shipbuilding, 44; Marinship Corporation, 44; Welding Shipyards, 4. The commission also received nine tankers from the Bethlehem-Sparrows Point Shipyard, Inc., Baltimore, which turned out one private tanker in addition, and seven Liberty ships converted to tankers.

Land reported that the production of ocean-going tankers in 1944, not counting those built as military types, was 30 percent greater than in 1943 and 350 percent greater than in 1942. The total of such tankers was 219 last year, against 167 in 1943, 62 in 1942 and 29 in 1941, he said.

Texas Furnishes Most of Nation's War Oil Increase

Statistics released by the Texas Railroad commission indicate an increase of 51.77 percent in production of crude oil in Texas during 1944 as compared with 1943. The total output up to midnight, December 31, 1944, was 739,781,126 barrels, according to Commissioner Beauford H. Jester. The yield for 1943 amounted to 487,436,107 barrels.

"To meet urgent war demands," Jester said, "the state furnished 93.6 percent of the national increase in crude oil production for the year. Ninety-five refineries produced 219,863,944 barrels of manufactured gasoline of various types."

The same trend was followed in field activity. Figures quoted by Jester showed 3449 oil wells, 333 gas wells and 1204 dry holes drilled during 1944.

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY
All figures indicate daily averages, in barrels)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED Jan. 6	Dec. 30
Alabama	200	200
Arkansas	80,600	80,200
California	889,000	895,300
Colorado	9,500	9,700
Florida	50	50
Illinois	205,400	205,400
Indiana	12,900	12,900
Kansas	229,900	229,900
Kentucky	33,150	33,150
Louisiana	360,650	360,650
North Louisiana	71,400	71,300
South Louisiana	289,250	289,350
Michigan	47,250	47,250
Mississippi	49,700	49,700
Missouri	100	100
Montana	23,430	23,430
Nebraska	1,000	1,000
New Mexico	104,050	104,050
New York	12,650	12,650
Ohio	7,050	7,050
Oklahoma	361,200	361,200
Pennsylvania	36,200	36,200
Tennessee	35	35
Texas	2,120,300	2,120,300
Upper Gulf Coast	552,650	552,650
East Texas Field	370,900	370,900
Rest of Eastern Texas	144,100	144,100
Lower Gulf Coast	243,900	243,900
Southwest Texas	78,400	78,400
South Central Texas	20,050	20,050
West Texas	478,550	478,550
North Texas	143,050	143,050
Panhandle	88,700	88,700
West Virginia	7,050	7,050
Wyoming	98,250	98,250
Total United States	4,689,615	4,714,615

East Coast Service Ships May Be Taken by Military

Military developments of the past month indicate that a number of the tankers now in East Coast operation may have to be recalled for overseas military service, it was disclosed last week by James F. Byrnes, director of war mobilization and reconversion, in a report to President Roosevelt and the Congress.

Discussing the transportation situation and prospects, Byrnes revealed that tankers last year handled 16.1 percent of the East Coast oil load, more than double the eight percent which they accounted for in 1943.

As a result of the possible diversion of tankers, he said, the railroads which after moving 71 percent of the East Coast's oil in late 1943, dropped back to 37.8 percent last year, will have to resume a major proportion of East Coast petroleum transport, since the 13,600 miles of pipe lines which have been constructed, converted or reversed since 1940 at a cost of more than $275,000,000 for new trunkline facilities, already are operating at capacity.

Byrnes disclosed that the total volume of freight moved by American railroads, trucks, pipe lines, commercial air transports and over inland waterways has increased from some 600,000,000,000 ton miles in 1940 to more than 1,000,000,000,000 ton miles in each of the last two years.

The new tight situation which has arisen in oil transportation was reflected also in orders of the Office of Defense Transportation imposing penalty demurrage charges against shippers and receivers who hold back tank cars.

power . . . and curb lowering reservoir pressures

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Second phase in development of Oklahoma oil empire will come with extensive tests in vast area, one third of which lies within the state. Deep and expensive wells will be required as will be complete cooperation between operators and landowners.

Great Activity For Anadarko Basin in 1945

By ANTHONY GIBBON, Staff Writer

A CAMPAIGN to tap the potential oil reserves of the Anadarko basin of Oklahoma and the Texas Panhandle which started early in 1943 and so far has resulted in two Ordovician sand discoveries along its eastern flank, will apparently get under way during 1945. The campaign will involve deep and expensive test wells. The prize is a rich one, estimated by some to be no less than between 5 and 10 billion barrels of recoverable oil—more oil than Oklahoma has produced up to the present time. These expectations are based on the belief that vast, thick sand bodies are to be found, which will carry tremendous quantities of oil under heavy pressure within the confines of this major synclinal feature.

When prospecting within the Anadarko basin begins in earnest, activity there will represent the second phase in the development of the Oklahoma oil empire. Since oil was first tapped commercially, Oklahoma oil men have confined their activities in most part, to the northeastern region of the state within an area lying east of the Nemaha ridge. Some of the state's richest oil reserves have been tapped within this area including the Seminole area pools, Tonkawa, Burbank, Glenn pool, Cushing, Bartlesville, Oklahoma City and others.

In addition to these major developments, hundreds of smaller oil pools have contributed toward the 5,250,610,000 barrels which the state had produced up to the end of 1943. Although development will continue for many years and recognizing that the area east of the granite ridge is by no means depleted, experts agree that the state's past production history must be duplicated if it is to retain its present position as the fourth ranking oil-producing state of the union. And so the search for these new reserves swings to central Oklahoma where the Anadarko basin challenges the ingenuity of the prospector.

Vast Area

Only about one third of the area of this major geological feature lies within the borders of the state of Oklahoma. The Anadarko basin in its entirety (see Figure 1) covers an area of approximately 140,000 square miles. It is bounded on the south by the Wichita mountains in Oklahoma and the Amarillo buried ridge in the Texas Panhandle; on the west by the Sierra Grande-Las Animas arch of New Mexico and Colorado; on the north by the Central Kansas uplift; and on the east by the southwest dipping homocline of central Oklahoma (Nemaha Ridge).[1]

Unlike the plan in the developed area east of the granite ridge, the task of prospecting the oil and gas resources of the Anadarko basin will largely fall to the major oil companies and those independent operators with sufficient financial stamina to carry the play to 15,000 feet or deeper. Again, unlike the eastern oil-producing area where surface geology has made structure determinations possible and where geophysics have been effective, the geology of the Anadarko basin is still comparatively unknown since surface rocks by their nature do not permit reliable surface mapping, and the shallower sediments in much of the region contain evaporates which have made geophysical interpretation difficult.[2]

New Reserves Needed

Several factors have intervened to retard development work in the Anadarko basin. The area experienced a heavy leasing campaign 15 years ago, and it appeared that the territory was set to receive a thorough testing. However, new important fields were discovered to the east of the Nemaha ridge and these discoveries changed the state's production picture to such an extent additional reserves were not needed. This development, coupled with the depression, created an economic condition that did not warrant the drilling of expensive deep tests. Again, the production picture has changed with time. Today, Oklahoma, as well as the nation as a whole, is in need of new crude oil reserves.

Another deterrent factor was the lack of technological and engineering skill which, until a few years ago, posed insurmountable problems in the drilling of wells to the depths anticipated in the synclinal basin. This obstacle now has been overcome, competent oil men having penetrated below 15,000 feet.

Currently, only one factor is delaying the search for oil in the Anadarko basin. This is the stringent wartime shortage of materials, especially heavy-duty drilling rigs. As soon as the material situation permits the manufacturing of heavy-duty rigs, there should be a steady prospecting campaign of this virgin area.

Broadly speaking, the Anadarko basin is considered as the depository of vast layers of sediments which have formed ideal reservoirs for the entrapment of gas and oil. Through the processes of erosion and marine action, layer on layer of sand were deposited in the syncline over vast periods of geologic time. Great stresses and strains exerted by surrounding geological features have resulted in the creation of suitable trap conditions within the basin where future drilling will reveal practically every type structure known to contain hydrocarbons in the mid-continent area.

A Broad Syncline

The sedimentary rocks of the Anadarko basin consist chiefly of marine Paleozoic formations from the Cambrian to and including the Permian, with thin representatives of the Mesozoic, Cenozoic, Tertiary and Recent covering much of the area. (See Figure 2.) The average thickness of the sedimentary column is approximately two miles. The thickest section of the region occurs at the bottom of the basin where more than three miles of sediments exist. This is known since one test was drilled to nearly 15,000 feet without completely penetrating the Pennsylvanian section. Structurally, the region is a broad syncline with the deepest part along the south side adjacent to the Amarillo-Wichita belt of folding, where it is known as the Anadarko basin. The rocks dip steeply north from this area of folding, then rise from the bottom of the syncline gradually north and west to the boundaries in southeastern Colorado and southwestern Kansas. The syncline opens out to the southeast where it joins the Ardmore syncline and passes under the Cretaceous overlap into north Texas. Considerable drilling has been done around the edges (where oil-producing formations are shallowest), but within the area relatively few wells have been drilled. Of these, several have had showings of oil. Around the edges of the region, however, many oil fields are found producing from rocks ranging from Permian to Ordovician in age. These rocks are all known to underlie the Anadarko basin.[3]

Broadly speaking, east of the Nemaha ridge the oil and gas pools which have been developed are characteristically small and sands are comparatively thin. West of the ridge these same producing

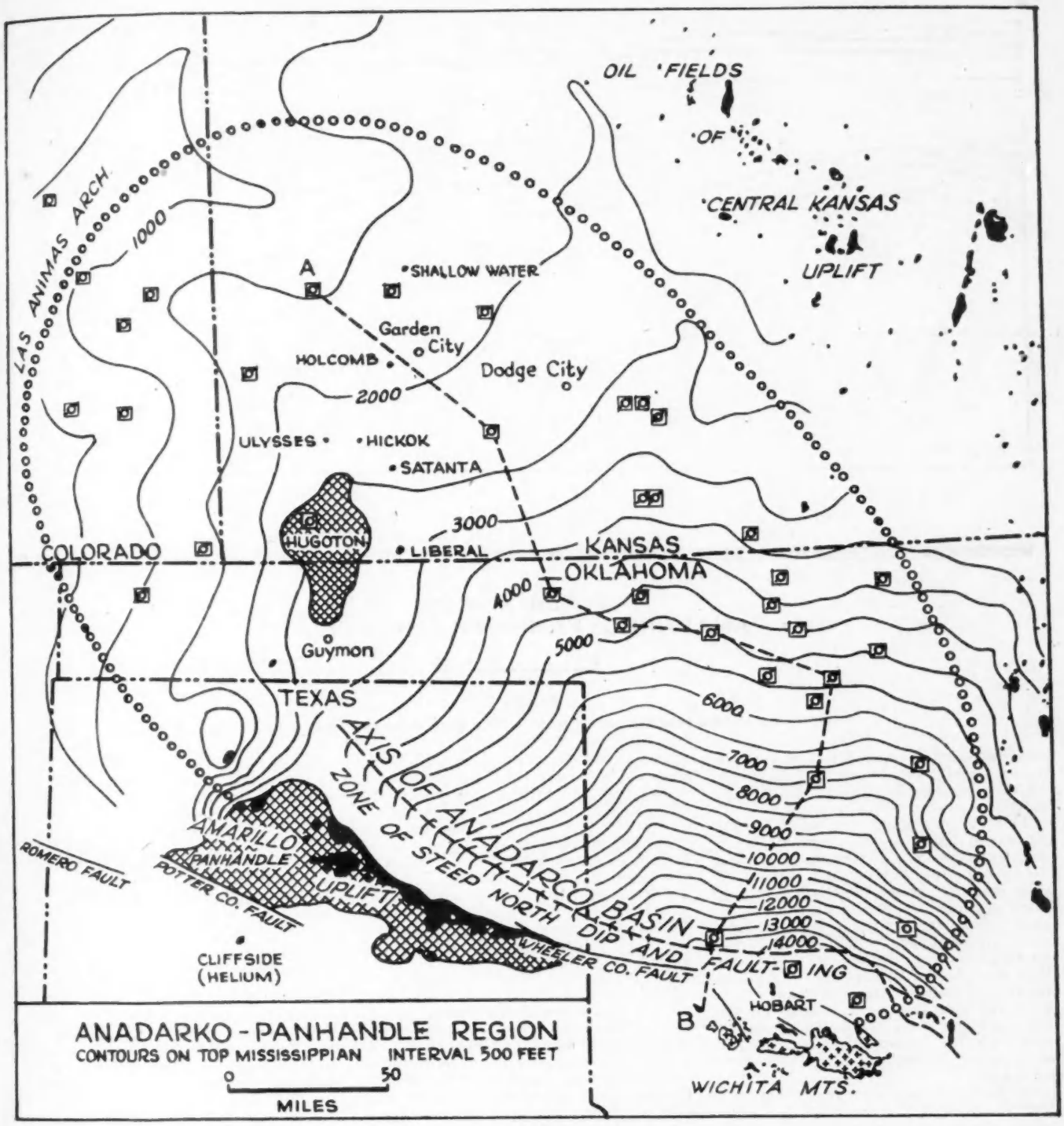


FIGURE 1

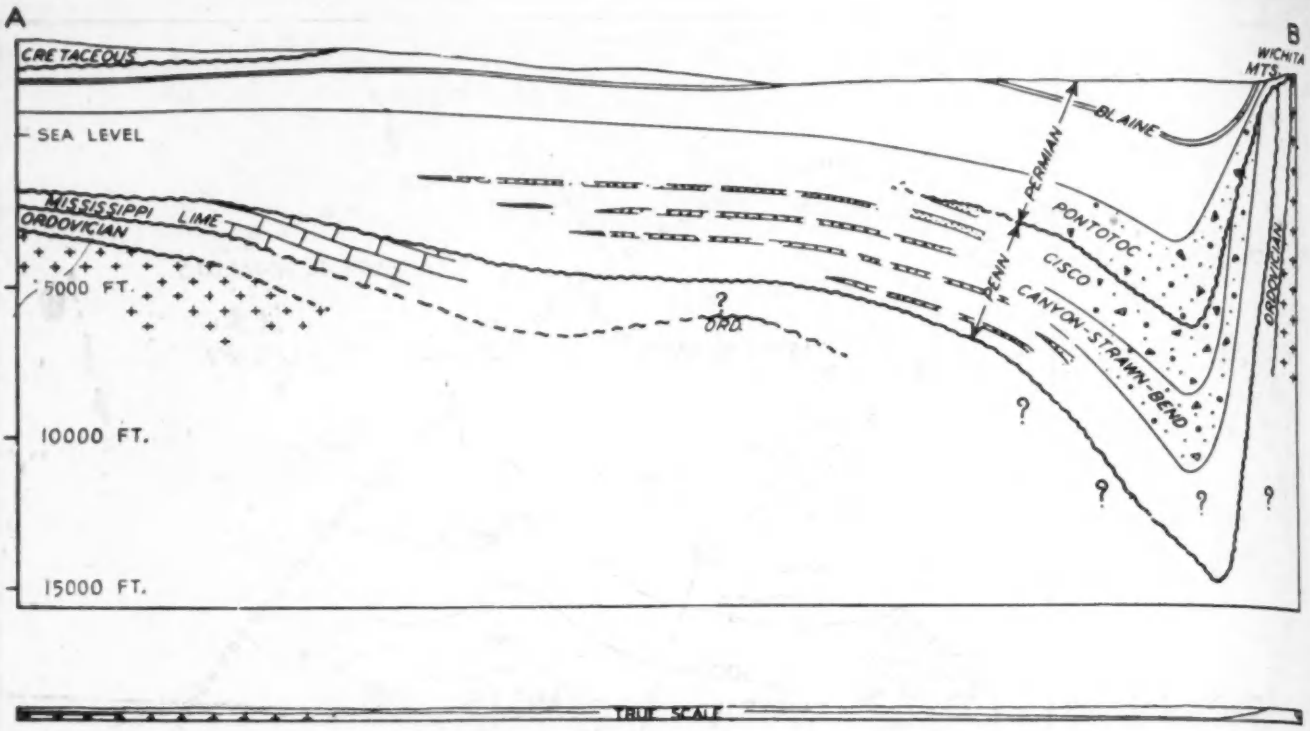
Map showing general features of the Anadarko-Panhandle region of western Oklahoma and adjacent parts of Kansas, Colorado and Texas. Area described lies within dotted line.

sands are expected to thicken while 4000 to 6000 feet of faulting may be encountered. The formations, aside from depth, will present no additional hazard within the Anadarko basin and since the bit will penetrate the same series and age of stratification on the west as it has on the east side of the granite ridge, the Anadarko basin will present no new problems for the driller.

Important Unconformities

Three important regional unconformities are found within the Anadarko basin: one at the base of the Pontotoc formation; one at the base of the Pennsylvanian system; and one at the base of the Woodford or Chattanooga shale of Mississippian age. Folding occurs below each of these unconformities in the surrounding territory where much oil is found associated with such folding. Upwards of a thousand linear miles of sedimentary wedges of porosity are known to occur within the region. In part, this is the result of overlap by the Pontotoc formation along much of the length of the region on the north side of the Wichita-Amarillo belt of folding; and in part, it is the result of a northward and westward gradation of several thousand feet of sandstone into the shales and limestones of northern Oklahoma and southern Arkansas. Drilling undoubtedly will develop many additional wedges of porosity, since the stratigraphic column generally is characterized by lateral gradation, overlap, and lithologic variations.[1]

A possibility that the presence of the regional unconformities with known pre-unconformity folding in the surrounding territory may bring deeper formations to much shallower depths offers an opportunity for the smaller operator to take a hand in future Anadarko basin play although, because of the masked geologic and geophysical



SECTION ACROSS
ANADARKO-PANHANDLE REGION

0 50
MILES

FIGURE 2

Generalized structure section from north to south across Anadarko basin

conditions, operators who cannot afford to lose heavily should exercise the greatest care in selecting drilling blocks and locations.

Thus a geological summary of the Anadarko basin reveals that in Paleozoic times an area of sinking of the sea floors occurred over a long period of time resulting in the deposition of very thick sedimentary beds in the resultant geosyncline. Since geosynclines are zones of weakness in the earth's crust intensive folding resulted. A major axis lies along the Criner hills, Wichita mountains and the Amarillo chain which is buried and another axis may be defined as lying along the Arbuckle mountains. In the mountains most of the sedimentary depositions have been eroded away.

Production zones occur in distinct geological zones. Along the Wichita mountains axis where sufficiently deep there are the Sayre, Oklahoma, and Amarillo, Texas, gas pools. The Cement, Apache and Gotebo pools as well as some pools in Carter County, occur in a zone of sharp folding. The prolific West Edmond pool may be considered flank production along the granite homocline or Nemaha ridge.

Consequently a large area of western Oklahoma between the Nemaha ridge in the east, the Kansas uplift on the north and the Texas Panhandle to the west may be included in the Anadarko basin. As yet no important production has been found in this area and comparatively little information is available except that important pays are going to be deep. A 10,000-foot test at Binger is still in the Pennsylvanian. At Cement the Ordovician may not be reached above 15,000 feet. The Carter Oil Company development ranges from 8222 to 10,640 feet and this production in McClain County may even be determined as not true Anadarko basin but production along a Nemaha ridge zone of folding or "border line." Near the Kansas state line the Ordovician lies at a depth of less than 10,000 feet but little structural information is available there primarily because no deep wells have been drilled and surface structure is difficult to work out.

Localizing the Oklahoma boundaries of the basin one may include virtually all of the western, northwestern and central counties lying between townships 5 to 29 north and ranges 4 to 26 west which comprise all or portions of the counties of Grant, Alfalfa, Woods, Harper, Ellis, Woodward, Major, Garfield, Kingfisher, Blaine, Dewey, Custer, Roger Mills, Beckham, Washita, Kiowa, Caddo, Canadian, Grady and McClain. Beaver, Texas and Cimarron Counties, in the Oklahoma Panhandle, may also be included.

Present Production

Production which can be designated as Anadarko basin oil, although not in terms of the projected prospecting in the central portion of the basin, has been developed in the northern part of Kiowa County and in central Beckham County. The Hobart and Gotebo pools in Kiowa have produced for some years while Beckham County has the Sayre gas pool. There is a small gas pool in township 26n Range 24w in Harper County. Other producing areas properly included in the major syncline are the large Cement pool, the Chickasha gas area and the Apache field on the northern flank of the Anadarko basin. Producing zones in these areas are in the Pennsylvanian series.

During the past year The Carter Oil Company has led in prospecting the possibilities of the Anadarko basin although it has, so far, confined its drilling activities along the western flank of the granite ridge. An Ordovician test is projected in northeastern Blaine County by Superior Oil Company in 17-19n-10w, and results of this test should provide valuable subsurface data for future operations since the well is located well within the syncline proper.

Carter is credited with proving two features which, so far, appear to be limited in area and which apparently have not tapped the thick sand bodies believed to exist in the basin. The new strikes are producing high-gravity oil from Ordovician Wilcox sand. Wells were predicated and drilled on geophysical and subsurface information but since both formations are, up to the present time, one-well pools, geological interpretations of the features are far from conclusive, although both are admittedly anticlinal folds.

Carter Discovery

The first Carter discovery completed early in 1944 was Cottingham 1, CSE SW of 4-7n-3w, near the Washington community in central McClain County. The well, drilled under difficulties, attained a total depth of 11,209 feet. To complete, the well was plugged back and casing perforated opposite the Wilcox zone at 10,625-40 feet and, after experiencing considerable difficulties in attempts to obtain a complete water

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shut-off, was turned into tanks, flowing approximately 200 barrels of oil per day, a rate since maintained. Considering the cost of the hole, the well was a disappointment as the productive sand zone was thin with only 8 percent porosity and a permeability of 115 millidarcys. Recovery figures are estimated at 5000 barrels to the acre.

About seven miles northwest of the Cottingham well, Carter drilled Johnson Ranch 1, CSW NE of 13-8n-4w, which was abandoned at 10,536 feet in dry, white Ordovician Wilcox sand. Slight oil stains were logged in the Hunton lime zone but tests through casing perforations at 9500-26 feet were without results.

Carter Oil Company's second Anadarko basin strike of 1944 was N. R. Johnson 1, CSW SE of 30-8n-2w, just south of the Canadian river near the town of Noble, McClain County, 3½ miles northeast of the Cottingham. The discovery, however, is considered on a separate structure than the Cottingham well, thus minimizing its importance. It was drilled to 8222 feet and completed as a flowing well producing 312 barrels of oil and 10 barrels of water during the last 23 hours of its final test. The test drilled into the Ordovician Wilcox zone, the producing sand, penetrating the Pennsylvanian, Hunton, Sylvan and Viola sections.

Johnson Called Typical

Although not as deep as some of the wells that will undoubtedly be drilled in prospecting for oil and gas in the Anadarko basin, the Johnson well may be taken as a typical operation in the region. A drilling summary follows.

The well was drilled under contract by the Olsen Drilling Company of Tulsa. A standard-type, 136-foot steel derrick topped the hole and a heavy-duty rig equipped with three gas engines and using butane for fuel was used. Actual drilling, commenced May 21, 1944, took 114 days. Only one fishing job was logged, caused by a twist-off at 3570 feet and the fish was recovered with an overshot with the loss of only four hours drilling time. The well broke no records but established that drilling in the Anadarko basin will not differ substantially from operations east of the granite ridge. Formations cut normally. The hole was cut to 1080 feet with 11-inch bit, reamed to 1052 feet and the first string of 13⅜-inch pipe set at 1039 feet and cemented with 900 sacks of cement to surface. Below this surface string an 11-inch hole was cut to 4510 feet and an 8⅝-inch protection string landed at 4489 feet and cemented with 400 sacks of cement, sealing off water in the upper Pennsylvanian zones. Below 4510 feet and to total depth, a 7⅞-inch hole was cut and a string of 5½-inch oil string run to 8219 feet and cemented with 400 sacks of cement. This oil string was designed to withstand all collapsing and tensile stresses and was made up of 407 feet of 17-pound N-80 on top, coupled into 6941 feet of 17-pound J-55 and tapered off with 913 feet of 17-pound N-80 on bottom. No trouble was encountered in maintaining straight hole. Mud requirements posed no unusual problems with native mud used successfully to 4500 feet after which a bentonitic mud mix having a weight of 10.2 pounds per gallon, a viscosity of 35-45 seconds and a water loss of 10-15 cubic centimeters at 100 pounds in 30 minutes, was used to completion. A geolograph, a device that automatically records the rate of penetration, was utilized. Bits required to cut the hole included sixteen 11-inch bits, two 17¼-inch reamers and fifty-seven 7⅞-inch rock bits.

Teamwork Required

Variables which may be encountered in deep drilling in the Anadarko basin and specifically in the Ordovician Wilcox zone were reflected in the testing record of the Johnson well. Teamwork on the part of the production, geological and engineering staffs was necessary in order to meet the problems which confronted the operator before the well was completed. Similar teamwork will form an important part in future operations in the area where unknown subsurface factors will present many problems, the solution of which will decide success or failure for deep Anadarko basin wells which may well represent investments of from $100,000 and upwards per well.

With the Johnson well carried to 8219 feet and oil string successfully landed on bottom, initial testing began with a 19-shot perforation through casing opposite saturated zone at 8208-13 feet and the well, after cleaning, flowed a mixture of fluid comprising oil cutting as high as 10 percent water through various-sized chokes and estimated at several hundred barrels. The first water shut-off was attempted by perforating with 20 shots at 8213-19 feet and squeezing with 32 sacks of cement displaced in the formation. The attempt was unsuccessful. Another squeeze was made in two stages displacing 115 sacks of cement into the formation but the subsequent production test indicated that the effort had failed. A bottom hole water shut-off was next attempted and after the well was deepened from 8219 to 8222 feet, 28 sacks of cement were displaced in the formation under 5500 pounds pressure and after plug set and was drilled out to retainer, the casing tested dry. Operator reperforated with 24 shots between 8205-10 feet but salt water again showed in testing. Perforations were squeezed with 25 sacks of cement under 6000 pounds pressure, plug drilled and casing reperforated with 40 shots between 8190-8200 feet and on final test the well flowed 312 barrels of oil and 10 barrels of water through ¼-inch tubing choke at 700 pounds pressure in 23 hours, with gas oil ratio of 867-1.

Water Explained

Intrusive water in the Cottingham and Johnson wells poses a problem which may be explained by suggesting the presence of interstitial or connate water with the oil or by the fact that both wells were located on the edge of their respective structures and that subsequent tests higher on structure will produce clean oil and more of it. From the viewpoints of production and thickness of sand sections these Anadarko basin wells are disappointing. However, many feel that neither the Cottingham nor the Johnson wells are criterions of future production possibilities in this major geological feature.

Cooperation Required

Development of deep oil in the Anadarko basin will present complex problems and success can only be assured through complete cooperation between landowners and operators. Unlike the development east of the granite homocline where small acreage blocks represented attractive drilling propositions because of the shallow depths of producing formations, operators risking large capital outlays in the Anadarko basin play will demand substantial drilling blocks. With few exceptions lands within the Oklahoma boundaries of the basin are held by small landowners. This ownership situation will make unitization of interests almost imperative if large drilling blocks are to be assembled. Petroleum engineers now are capable of coping with future technological problems arising from deep drilling, while conservation practices will prevent waste. The Anadarko basin, through unitization, cooperation and the drilling of wells deep enough to tap its rich resources, should assure Oklahoma's leading position among oil producing states for many years to come.

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[1] "Possible Future Oil Provinces of the United States and Canada," edited by A. I. Levorsen.

Figures 1 and 2, ibid.

Stripper Well President Hits Plan to Import Oil

Howard J. Whitehill of Tulsa, president of the National Stripper Well Association, declared the United States may lose 400,000 barrels of daily oil production and one-fifth of its known reserves if the National Planning Association's program to import a billion barrels of crude by 1950 at a price of 75 cents per barrel is carried out.

Whitehill made the statement in connection with the next meeting in Fort Worth January 9-10 of the executive committee and state vice presidents of the association at which approximately 40 association officials representing stripper areas in Pennsylvania and California will discuss this problem.

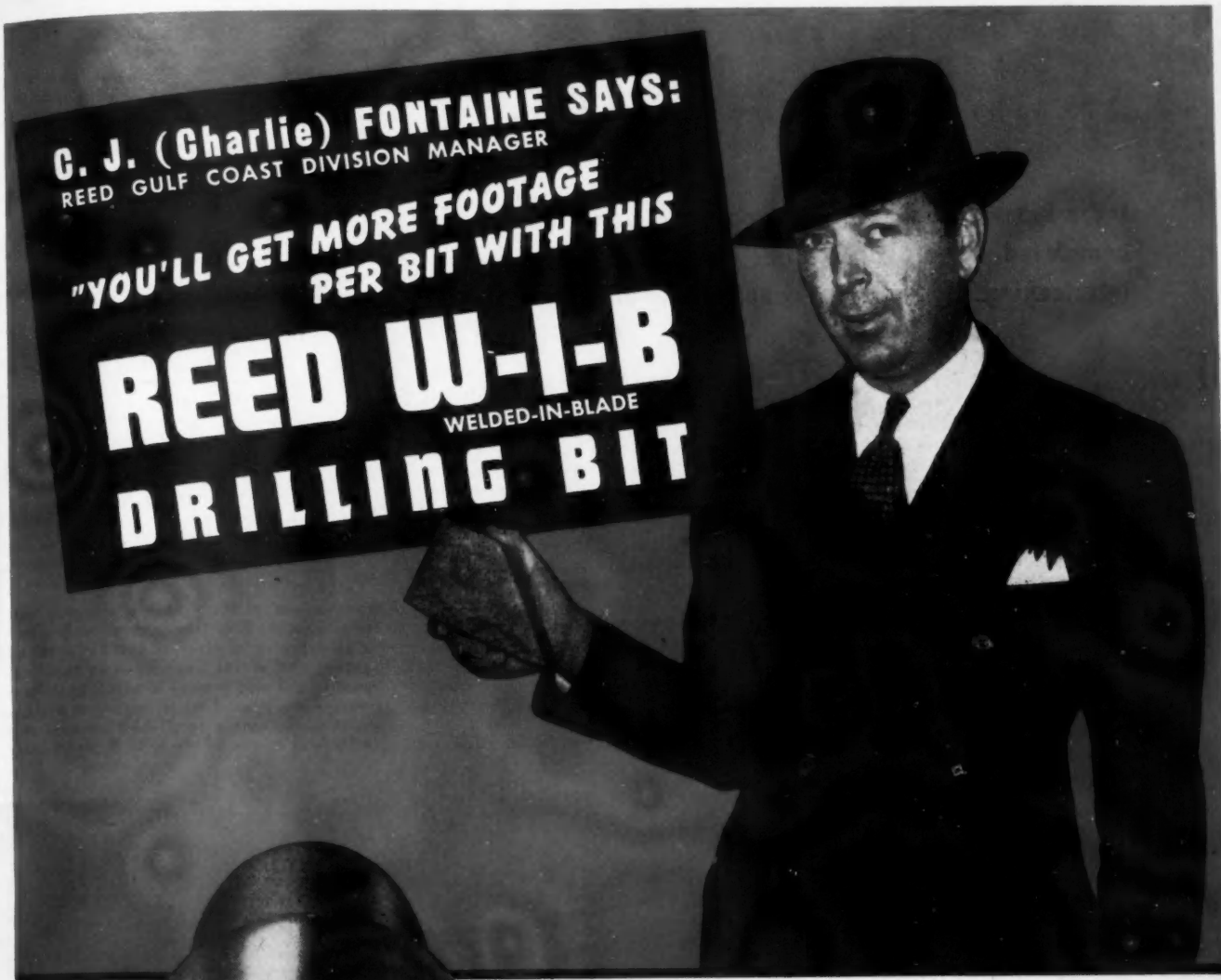
"Stripper well owners will be unable to compete with the 75-cent oil if the National Planning Association's program is carried out," Whitehill said. "Should this plan be in operation by 1950 the stripper well owners will have to abandon their wells and sell their equipment for junk. This will mean a loss of 400,000 barrels a day of oil which now is badly needed by the nation as well as one-fifth of the country's known oil reserves which underlie these more than 300,000 small wells."

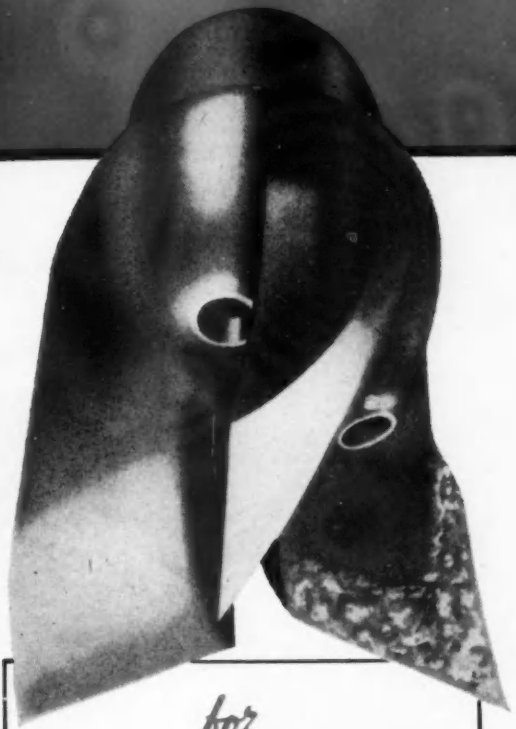
Sees More Importance for Patent System After War

The patent system will take on a greater importance after the war than ever before, George I. Haight, president of the Wisconsin Alumni Research Foundation, predicted recently before the War and Reconversion Congress of American Industry.

Reviewing the patent laws and their benefits from early Colonial times, Haight said it must be plain that in its fundamentals and in its basic purpose our patent system must continue. He declared the patent system had overwhelmingly proved its worth in the last century.

"The most important frontiers ahead of us now lie in the minds of American inventors," Haight asserted. "It is through protecting their work for a limited time that encouragement for still further advances will be given. Patent owners should endeavor to make that patent system perform its accelerating function."





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Wartime Pipeline

India-Burma-China sector of portable army line is completed despite difficulties beyond description; interlocking flange type coupling simplifies work

THE Army's portable pipeline, cutting its teeth in the sands of North Africa, now bites off chunks of terrain far different from that at first spanned by the tenuous lines of expendable pipe and replaceable pump stations.

Aviation gasoline and other sorely-needed fuels are now being pumped across sections in the India-Burma sector which would seem to be sufficiently forbidding to discourage even the most primitive tansportation method—that of slinging a container on the shoulders or back of a coolie or porter. And, not to be outdone by the difficulties of terrain, aerial spanning of the gap between material dumps and line "right-of-way" reduces the problem of more pipe to the simplest elements of two landing fields, one near the line to be laid, the other connecting overseas transport of the pipe from the mills.

The India - Burma - China pipeline, which at first glance seems to ape some of the more ambitious of the early railroads in adopting place names far from the actual compass of the rails, is a 4-inch line, built of the same type of line found so effective in North Africa. Designed to keep fuel stocks in the foremost of the airfields, the eventual extent of the line may in time encompass the three countries of its name, but nowhere on the route is it expected to meet—and overcome—the harassing difficulties which hampered string through portions of Burma.

Through swamps which rivalled the worst ever met in Louisiana, into jungles and through vast areas of seven-foot sawgrass, and working under weather conditions unparalleled at home, the men of the two engineer petroleum distribution companies—the 775th and 776th—have carried ahead the line in step with the building of advanced airfields, and have again demonstrated the ability of the engineers to meet and overcome any type of natural obstacle.

The 4-inch pipe, with grooved ends for the flanges of the couplings, is shipped in mill lengths of about 20 feet. This length is not too great to permit the material to be ranged and stacked within the fuselage of the C-47 planes used to ferry the pipe in to the construction dumps from seaport or other supply base. The light weight pipe, completely filling the after end of the fuselage, is a bulk cargo rather than one of maximum-lift tonnage, the pipe being loaded and unloaded joint by joint, with two men working to shift the pipe and keep it in the clear.

At the delivery airfield the pipe goes into waiting trucks or half-track trailers.

A plane-load of the light 4-inch pipe is transferred from the C-47 transport to a waiting truck to be delivered as close as possible to the advancing end of the line. Flown in from Indian seaports, the pipe is made available to the pipe-layers in a matter of hours, instead of weeks, as would be the case were all-land transport used. *(All photos in this article by U. S. Signal Corps)*

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Above, left—The trail through the thick mat of sawgrass is little more than a bending aside of a few of the vicious cutting edges, yet over this trace must be carried pipe for extending the line until a more advantageous dump can be established at a site accessible by truck or half-track. At right—Two men of the 776th Engineer Petroleum Distribution Company splash through a flooded clearing in the jungle where the line has already been laid and which, due to the lightness of the material, is floating freely although only half submerged. Wire, rope and crossed stakes driven into the ground over the pipe are used to anchor it against permanent shift and flotation where the unbroken line would be visible to aerial reconnaissance.

to be transported as near as possible to the stringing and laying spread. From this point further progress must be on the shoulders of two of the engineers, who wade, wallow and sometimes crawl ahead to get the pipe into its ultimate position.

The type of coupling used, requiring only a relatively light spanner or socket wrench for tightening in place, is readily placed by one of the two-man team while the other aligns the next joint and —when necessary—holds it clear of the mud and water until the joint is leak-tight.

Manifolds

The use of the interlocking flange type coupling extends to all fittings such as checks, valves, strainers, tees and ells, all screwed fittings being equipped with nipples the other ends of which are grooved to accommodate the coupling flanges. Special units which are normally fitted with flanges, are adapted to the remainder of the line by flanged nipples or short pipe runs, the entire assembly being removable by breaking two of the compression couplings.

Since any new clearing invites bombing by the enemy, advantage is taken of rice paddies and other open spaces already showing on any mosaic maps the enemy may possess and distribution manifolds, branches and control centers are installed in them, the pipe being covered with camouflage strips or lightly buried to afford maximum concealment.

The weight of the fittings in a manifold, when the line is filled with fuel, is sufficient to overcome the buoyancy of the line, and unless washed out by flood currents, the manifold sections remain in place. Not so the line itself, which is relatively so light even in fresh water that many difficult areas have been crossed by plugging the outer end of the line and adding joints at the rear end until the morass had been spanned. During the monsoon season, when the rainfall is continuous, and during which areas of Burma get most of their 180 inches of annual precipitation, the line floats from its original site, being restrained by stakes, jungle growth, or occasional sandbag anchorages, depending upon the availability of materials and type of growth at the site overflowed.

A manifold, "somewhere in Burma," installed by men of the 775th Engineer Petroleum Distribution Company in which 6 trunk lines may be served from any of a like number of delivery lines from the nearby pumping station. The almost universal application of compression couplings of the flange type is evident from this view, all screwed or flanged fixtures being tied in with short nipples and the standardized couplings.

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Blasting Method Of Closing Off Sand Channels

By F. R. COZZENS
Equity Oil & Gas Company

NO MATTER how proficient has been secondary oil recovery by air or gas drive, there invariably comes a time when by-passing becomes a major factor in production costs—a time when shifting of inputs will no longer sustain a balanced pressure in the sand and dilated channels must be closed or at least obstructed in order to prevent an excessive waste of force.

These offending channels are but miniature tunnels, and were they located near the surface it would be comparatively easy to fill the cavity with spoil, or to collapse the side walls, allowing the cavity to fill itself by natural caving. The oil man's project, unfortunately, is located hundreds, perhaps thousands of feet underground, but although space is restricted and progress must be determined almost entirely by measurements, the same principles of tunnel closing still may be carried out.

Different Agents Used

There are now available as spoil for sand-plugging purposes, some thirty different materials, each one capable of doing a fairly satisfactory closing job providing the agent reaches the proper zone, and can be forced far enough into the sand so that the plug will not be destroyed by back-flow when normal pressuring is resumed. The nature of the agent used is dependent somewhat upon the type of sand, but generally, the big problem is to seat the plug properly. The average air-pressuring equipment alone is seldom capable of doing this job, and unless the operator is especially favored by luck, he usually finds it necessary to cause a certain degree of collapse or a break-down in the walls of the channels themselves before a plug can be safely anchored.

The exposed sand column in the chamber or shot-hole of an air-blown well is known to be more or less honey-combed, especially in soft areas of sand where by-passing is first established. Quite often, the face formation is thin and brittle; which fact is varified by the continuous filtering in of floating sand. This being the case, the required amount of tunnel collapse can often be brought about by making structural changes in the sand-face. On many pressuring projects in the Eastern stripper fields, where the by-passing of air and gas has long been a headache to operators, this principle of sand-closing is being carried out quite effectively by using in connection with a plugging agent, small quantities of explosives, preferably gelatin.

The blasting method of channel closing is carried out on a project by first treating the input wells, and best results are obtained when the work is done soon as possible after by-passing has become troublesome. The well to be treated is blown-off and left open until pressure recedes. Tubing and pressuring equipment are then removed, and accurate measurements are taken from the casing point (bottom of casing) to the base of shot-hole. If the well has a sand-column of ten feet or more, with a shot-hole of average dimensions, a torpedo shell or similar container is loaded with 15 to 20 pounds of gelatin, extra L.F., and usually of 90 percent strength. In the majority of cases, 4 x 16-inch gelatin cartridges are used, being placed end to end in the shell. This pack, containing a No. 8 electric blasting cap attached to a copper wire line is lowered down the casing to a point about midway between the bottom of casing and base of shot-hole. The shell is suspended at that point by the wire line, or supported by an anchor-brace fastened on the bottom of the shell. The wire line is, of course, insulated, and all connections are wrapped in water-proof tape. After the pack of explosives has been seated, a slurry of finely pulverized native clay and water is prepared on the job, and agitated in a tank until the mixture is about the consistency of soup. Enough of this material is inducted down the well to fill the shot-hole, and to extend 3 to 6 feet up in the casing. After pouring is done, the connecting wire is touched immediately to the battery and the pack is exploded.

Sloughing-off Results

Assuming that measurements have been reasonably accurate, the casing will not be damaged by this amount of explosives, but the blast generally forces the slurry against the sand-face with sufficient impact to cause ample surface fracture, and considerable residue is also forced into the larger channels. Natural sloughing-off of the sand-face, following the blast adds more residue, much of which plasters up the channel entrances and retards back-flow of residue into the shot-hole. Spoil, remaining in the shot-hole is removed by bailing, and unless very low pressures are being used, it is seldom necessary to wash off the sand-face. Tubing or induction pipe is returned to the well, and effort begins immediately to re-build the former pressure. Return of air-flow dries out the chamber and serves to complete the job of seating the plug.

Many input wells, especially in the shallow oil fields have a sand-column of less than ten feet. This means a shorter sand-face, a smaller shot-hole, and consequently, less working space between casing-point and bottom of the hole. In this type of well the operator usually cuts the quantity of explosives one third to one half, uses less slurry, but repeats the plugging process after a 30-day period of pressuring. Two or three such treatments generally result in a favorable reduction in by-passing.

In certain districts, input wells were not provided with a shot-hole or chamber. In these cases, gelatin and slurry may still be used for channel plugging, but it is necessary to use gelatin cartridges of 2 inches or less in diameter. These are loaded end to end in a 3-inch diameter shell, which is allowed to extend from the bottom of the hole, up the entire sand column to a point 24 to 30 inches below the casing. The bore is filled with slurry, which should extend at least 10 feet up in the casing. Since explosive force is easily confined in this type of well, one treatment is usually sufficient for a satisfactory job.

When straight-bore input wells are zoned, however, and packers set so as to pressure restricted areas of sand, the channel plugging problem is much more difficult. The sand-face can not be blasted as a unit, and it is seldom possible to pull and replace the packers. One advantage, however, is that the channeled area can be easier located so that all effort may be centered at one particular spot. The operator may still use clay slurry as his plugging agent, but unless he has at least a fair working knowledge of selective shooting, it is advisable to obtain the services of an experienced well-shooter to direct the blasting process.

Skill Required

It is sometimes possible to close sand-channels in these isolated zones by blasting alone, without using any mechanical plugging agent, and there are cases where the shooting of tight or restricted areas of sand has reduced by-passing in the soft, and more open areas. Selective shots are capable of being used in wells having shot-hole diameters as small as 3 inches, and can be fired within 24 inches or less from casing or packer without causing damage. The process, however, requires skill, extremely accurate measurements, plus the services of an operator who is thoroughly familiar with sand formations in that particular locality.

Where by-passing has been curtailed successfully in input wells, it is seldom necessary to treat producers, except when a producer is to be changed into an input. In that case, the same plugging methods are carried out, and when pressuring is resumed, one of the previously treated inputs is made into a producer.

As previously stated, the operator has a wide variety of plugging materials to choose from. Clay-slurry has been played-up in this text, not because it is superior to other agents, but mainly because it is inexpensive, easily prepared, and meets the necessary requirements in a wide variety of cases. Much the same may be said of gelatin as a blasting agent. In many cases, Portland cement has given excellent plugging results when used in connection with explosives, as have carbide sludge, asbestos fibre, lime granules, charcoal, chemical solids, and pulp; and there is good reason to believe that several of the commercial plugging preparations now in the experimental stage, will prove adaptable to the same seating method.

The main objective is to provide a type of plug that will withstand pressuring conditions. Stability of that plug will be determined to great extent upon damage already done by sand-channeling, and the operator's ability to break down the structure which enables the channels to function. Explosives are a primary first-aid in breaking down channel structure, even where by-passing is excessive, and their use is adaptable to practically every type of sand formation.

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Technology Guarantees Future Oil

TECHNOLOGY is the Aladdin's lamp which will assure us of ample oil supplies in the future, according to Robert E. Wilson, president of Pan American Petroleum & Transport Company. In an article titled "The Future of Our Oil Supplies Assured by Technology" appearing in the January issue of *Mining and Metallurgy*, the monthly magazine of the American Institute of Mining and Metallurgical Engineers. Wilson also points out that gasoline rationing may be considerably changed for the better after the European war is ended.

"To show the vital importance of our future oil supplies to our economy," he says, "I will merely point out that this country with something like 15 percent of the world's land area and something like 7 percent of the world's population normally uses between 65 and 70 percent of the motor vehicles of the world, between 65 and 70 percent of the world's rubber, and produces and refines between 65 and 70 percent of the world's petroleum."

Aviation Gasoline Consumption

"The oil industry," Wilson continues, "in this country is producing and refining about 900,000 barrels a day more than it did in 1942. The military takes a total production of about 1,600,000 barrels a day. Subtract the 900,000 barrels of increased production and refining and you have 700,000 barrels which the civilian population has surrendered each day through rationing.

"Just as an indication of the scope of our military demand, the present rate of consumption of aviation gasoline in the United States is about 95 times as great and that of motor gasoline about 19 times as great as it was at the peak of the last war. Our nation last year supplied most of the war oil requirements of the United Nations, with crude production seven percent higher than in any previous year, and yet our proved underground reserves at the end of the year were only one-tenth of 1 percent lower than at the beginning."

Oil from Coal

Enumerating the various ways in which technology has come to the rescue and can come to the rescue in the future if need be, Wilson says, "Today technology has made it possible to produce all essential oil products, that is, lubricating oils, gasoline, heating oils, and wax, from coal at costs which are not unreasonable or out of line with values. So when people say plenty of oil is in sight for 1000 years, what they mean is, if we do not find the oil, we can make it from coal and we have enough coal for that purpose. We do not need to worry about the economy running down or the automobile industry petering out, or anything of that kind. Technology has come to the rescue."

Further he tells how by the use of the water drive, pumping water under high pressure back into the earth, we are able to get from 60 to 70 percent of the oil out of the sands, where we formerly only recovered about 20 percent, leaving 80 percent behind. One of the reasons that our reserves keep going up is that we are getting more out of the old fields by better and better technology every year.

"Next, technology has made it possible for us to convert heavy fuel oil into gasoline and other oil products. As a consequence, I think we are approaching the time when it will not be considered desirable, or prices will not permit, the burning of fuel oil in direct price competition with coal in large powdered-coal installations. I expect that over a period of time a decrease of something like 15 percent will be seen in the yield of heavy fuel oil from crude, because heavy fuel oil is now too valuable for making gasoline."

Wilson cited also the Fischer-Tropsch process which converts the methane of natural gas—of which he says there is something like 80 percent on a heat unit basis of the total proven reserves of crude oil (20 billion barrels)—into carbon monoxide and hydrogen by certain catalytic reactions and then converting them into synthetic gasoline and Diesel fuel.

"The newest technological star on the horizon," Wilson says, "is a process being worked out by the Bureau of Mines which gasifies subbituminous coal or lignite, which can be mined by strip mining. These products can be converted to carbon monoxide and hydrogen and thence into gasoline. Probable gasoline costs after another five years of technical development will be only 5 cents above present prices.

"Finally, there is coal in unquestioned quantity. Its hydrogenation has been much publicized. It is an expensive high-pressure process, but feasible, and has undoubtedly been a substantial source of Germany's gasoline, and still is, except for those plants destroyed by our bombers."

Rich Foreign Oil Supplies

Wilson cautions against thinking too much about the huge reserves of natural gas in this country, warning that much of the natural gas is already earmarked for public utility use, and should be considered only as an "ace in the hole." However, he reminds us that a country with only about 15 percent of the land area favorable for oil accumulation, and only about 30 percent of the known reserves, cannot expect to produce indefinitely 65 percent of the world's oil. "We must look more and more to foreign sources for oil," he says.

"The really rich areas in oil, as proven by drilling, are in the large basins alternately lifted and depressed between major continents—the Caribbean area, including our Gulf Coast, Venezuela, and Colombia; the great area between Europe and Asia, which has the tremendous reserves of Arabia and Iran; the intercontinental area of the Netherlands Indies between the continents of Australia and Asia; and finally, the area around the Arctic Ocean, in northern Russia and around Alaska, which may prove a rich area but which, because of physical difficulties, has not as yet been explored."

Commenting on the untold wealth of the Middle East oil field in Arabia, Wilson says, "One of the most startling facts about this field is that a total of 160 wildcat wells drilled have proven up reserves about as great as the entire present proven reserves of the United States—20 billion barrels. (As a wild guess, it probably took something like 50,000 wildcat wells to find ours.) But it indicates that the Middle Eastern fields are incomparably richer than those in this country."

Intelligent International Pact

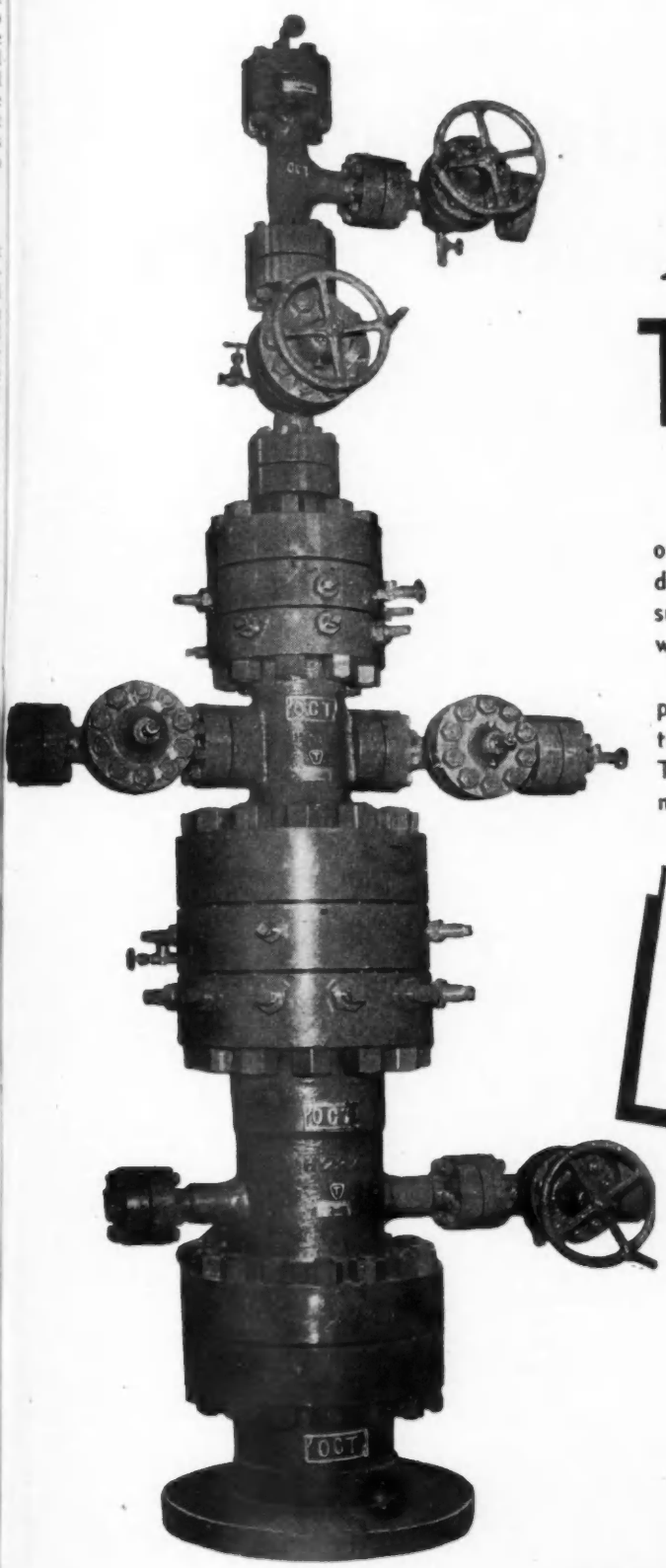
Wilson points out that this oil must obviously come out into the world market and looks to the intelligence of oil men and governments to work out an international agreement which will work. As to an oil import policy for the United States, he observes, "if we let imports come in too freely, we will not hunt for oil here. Private industry will never go aggressively into the development of oil from shales and coal as long as crude prices remain around the present levels. It seems to me the sound thing to do would be to keep enough oil coming in so that there will be no lack of transportation or legitimate industry, but not so much as to prevent domestic crude prices from being high enough to keep our geologists and drillers hunting for oil, and our chemical engineers interested in developing substitute sources."

Wilson declares that the most serious and imminent danger to the future of our oil industry is in the recent threatening attitude of various theorists and faddists against our patent system. "I can think of no more effective way to supersabotage America's future than to destroy our patent system. If we permit impractical theorists and faddists to hypnotize our nation into this act of national hara-kiri all of us will suffer and no adequate punishment can be meted out to those really responsible.

"Both the hope of and the danger to America lies in the field of the mind, rather than matter. The only thing that can prevent our country from having abundant liquid fuel for many generations at reasonable prices, certainly much lower than those which prevailed 25 years ago, is interference with the free play of technology and competitive enterprise."

As to the prospect of civilians being given a larger supply of gasoline after victory is won in Europe, Wilson says that out of about 800,000 barrels of gasoline a day being used at the present time by our armed forces about half is being used in Europe, a little more than one quarter in this country, and about a quarter in the Far East. He points out that with the end of the war in Europe the military cannot possibly jump its consumption of gasoline in the Far East to four times as much in three weeks, three months, or even a year.

"My guess," he says, "is that the total consumption of aviation gasoline, allowing for the fact that military use will continue to some extent in Europe, will drop to about half immediately after the end of the European war and then will gradually increase to maybe three fourths of the present demand." He thinks this would provide for a 25 percent increase in the amount of gasoline allowed civilians.



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Properties:		Physical Properties Obtained After Liquid Quench and Draw:	
Carbon	.33	Y.P.	92,000 p.s.i.
Manganese	.78	Ult.	112,000 p.s.i.
Silicon	.45	Elong.	21%
Chrome	.51	R.A.	56.8%
Nickel	.53	B.H.N.	223
Molybdenum	.15		

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Discussion of discovery, production and uses of helium gives particular emphasis to areas in Kansas where gas wells in large anticlinal fold passing through two fields, Dexter and Otto, produce at shallow depth. Foreign production is slight

Helium Production Is Centered in United States

By MARTIN W. BADEN, Consulting Geologist

HELIUM is a colorless, odorless gas, having negative properties when compared with ordinary materials. However, under an influence of the electric glow or electron bombardment, it will form compounds with tungsten, iodine, sulphur, and phosphorus. If confined in a vacuum discharge tube, it produces a green to yellow glow.

Helium has radioactive properties when emitted as a positive (2) discharge —its formation in radioactive change by uranium, radium, and thorium with emission of alpha particles which are later lost to become helium. It has been produced in the laboratory by artificial bombardment of boron or lithium.

In 1868 there was an eclipse of the sun, visible in India. The scientists who were making observation, noticed a bright yellow line in the spectrum which did not correspond with any known element. It was the first time that the spectroscope had been used in connection with the telescope for making a study of a solar eclipse. It was not realized that an important discovery had been made. Later Franklin and Lockyear suggested that the newly discovered element would be named "helium."

Experiments Start

In 1886 Dr. W. F. Hellebrand did a vast amount of research on uranites and found that when they were boiled with diluted sulphuric acid an inert gas was evolved. Upon close observation both nitrogen and helium were found to be present in this gas.

Scientists experimenting with helium noticed a distinct change in color when subjected to various pressures. Under very low pressure a greenish color is present; if the pressure is raised the color will change to a yellowish green; and under high pressure the color will become a decided yellow.

Twenty-seven years after the discovery of helium, William Ramsey found that this element was present in a mineral called cleveite. Upon igniting the mineral a yellow line was present if viewed with the spectroscope, the yellow line was identical to the yellow line discovered by Franklin and Lockyear.

In 1895 Hayser discovered the presence of helium in the atmosphere, and was at that time estimated that its proportion was approximately one part in 245,000 parts by volume. More careful subsequent examination has placed its proportion to be approximately one part in 185,000 parts by volume.

HELIUM. Symbol: He. Atomic weight: 4.002. Atomic number: 2. Density: 0.1785 gram per liter, 0°C., 760 mm., or 0.138 when air equals 1.000. Melting point: —272.2°C. Boiling point: —269.0°C. No isotope, but of single atomic form.

Since the discovery of this inert gas in the sun, the spectroscope reveals helium in many of the fixed stars. This rare gas has also been found in minute quantities in many of the older rocks, such as in minerals of uranium and thorium, in mineral waters, also in certain natural gases.

Richard B. Moore discovered that a certain portion of the helium content of some rocks could be extracted direct without chemical means. Most of the helium may be extracted by heating the rocks to a temperature of 900° C. for a period of 24 hours; by raising the temperature to 1000° C. for 30 hours, a greater part of the helium will be extracted.

The scientists who made the discovery during the eclipse in 1865 did not dream that they had discovered a new inert gas that would prove of immense value to science and industry.

In Natural Gas

In 1903 Hamilton P. Cady and McFarland discovered helium in natural gas. The well containing the helium was drilled near Dexter, Kansas. The gas was piped to this small city to be used for domestic purposes. To the surprise of the townspeople, it would not ignite. The sample analysis by Cady and McFarland was found to contain 82.60 percent nitrogen, a small amount of methane and 1.84 percent helium.

Ramsey and Collier have carried on a vast amount of research for the purpose of ascertaining the chemical inertness of helium. In their research, they discovered that it was impossible to combine any known element with it, or induce helium to take part in any chemical combination or chemical reaction without the influence of an electric glow.

Radium is widely distributed through the earth's crust. Many scientists believe that helium is produced by minute parts of radium being broken down in the sedimentary rocks through millions of years. The breaking down of radium or radioactive materials of the earth's crust is the source of helium in the atmosphere.

The richest helium bearing sands occur in the middle and upper Pennsylvanian formation. Both the Permian and Mississippian formation do not contain gases of high helium content.

In Kansas, natural gases having a helium content of more than 0.5 percent occur between the Wabaunsee group and the base of the Kansas City group; the stratigraphic range being from 350 to 2000 feet. For some reason the granite ridge (Nemaha Mountains) forms the western extent of the helium-bearing sands of central Kansas. The stratigraphic extent of helium bearing formation is fairly well known.

The following table taken from the *Kansas Bulletin and Professional Paper* by G. Sherburn Rogers of the United States Geological Survey, gives the various areas in Kansas which have helium-bearing sands:

Helium Content of Gases in Kansas Gas Fields

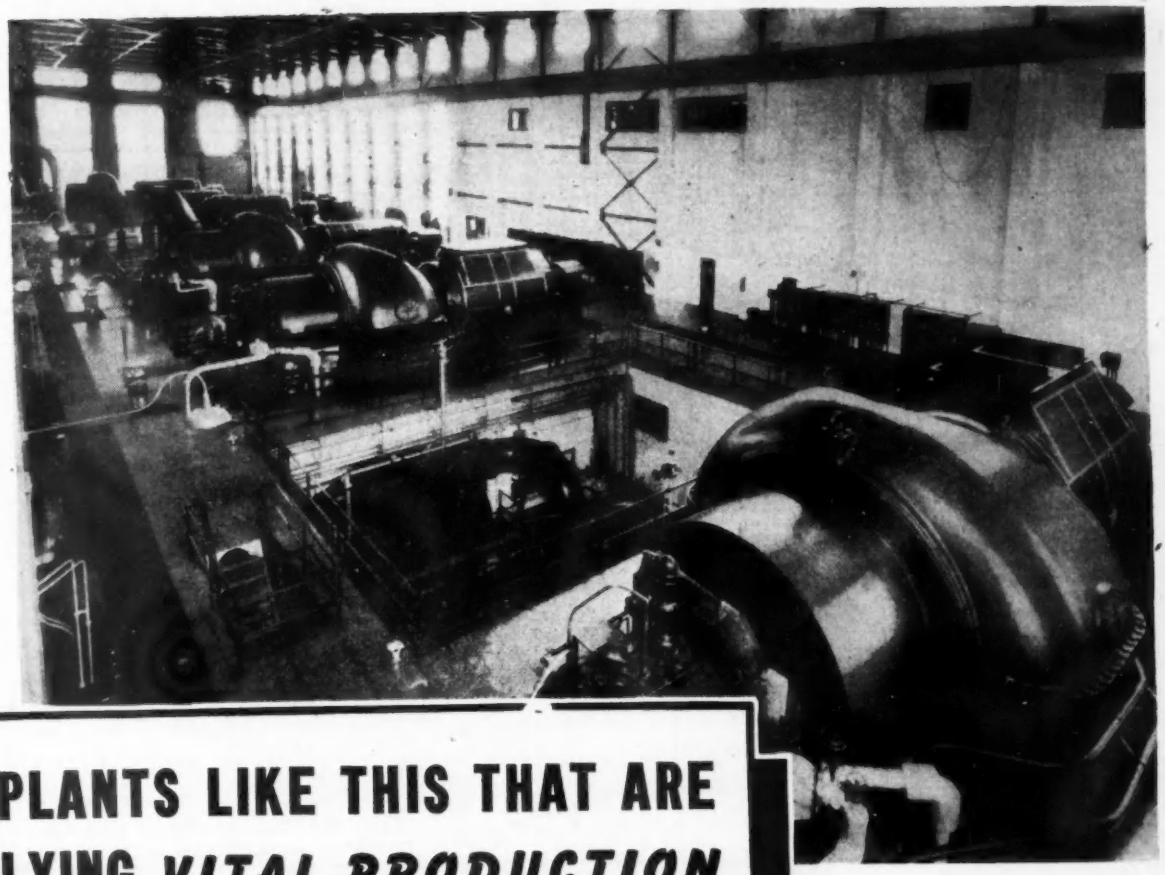
FIELD	County	Depth in Feet	Percent in Helium
Dexter	Cowley	310–1150	0.95—1.85
Arkansas City	Cowley	750	0.16
Eureka	Greenwood	375	—1.42
Fredonia	Wilson	1085–1250	0.62
Elmdale	Chase	150	0.35—0.56
Moline	Elk	1150	0.51
Lawrence	Douglass	1200	0.46
Olathe	Johnson	850–	0.40
Eudora	Douglass	350	0.27
Augusta	Butler	1440	0.16—0.65
Iola	Allen	750	0.14—0.18
Caney	Montgomery	1550	0.08
Augusta (wind gas)	Butler	400– 600	1.03—1.14
Sedan	Chautauqua	375– 690	1.41—1.91

Influence of Depth

It will be noted that the depth of helium bearing sands in Kansas have an influence on the helium content of the gases. The shallower sands are richer in helium; whereas, the deeper sands are poorer in helium.

In areas where the shallow and deep sands both contain helium, the shallow sands will have a higher helium content. This is proven by information obtained by wells that have been drilled in Oklahoma, Kansas, and Texas that had natural gas containing helium.

In most areas, natural gas containing helium also contain a large amount of nitrogen; the following table taken from *Professional Paper Number 121* of the United States Geological Survey gives the ratio of nitrogen to helium:



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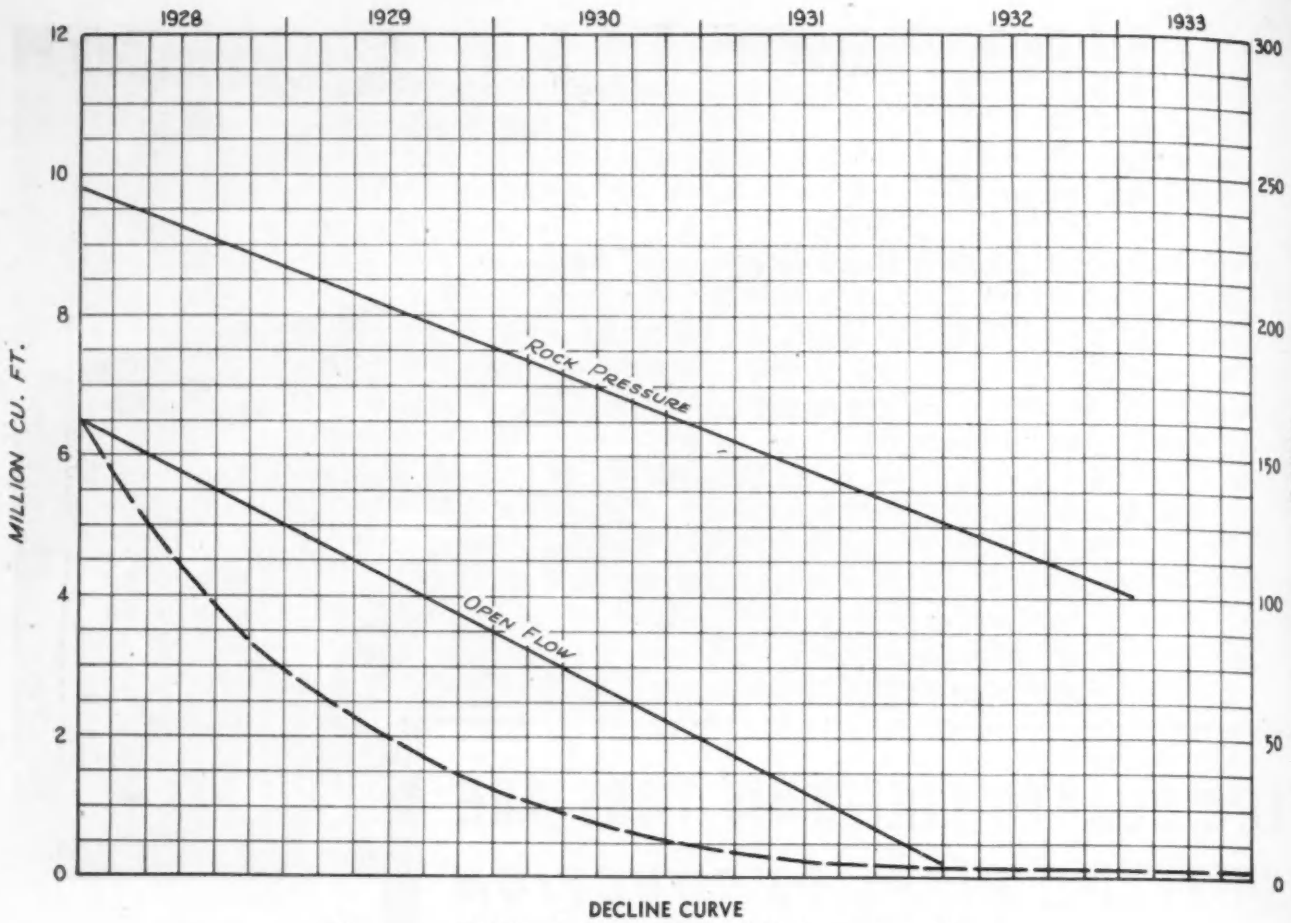


DECLINE CURVE

Decline curve of Dobson 1, 24-33-6e, Dexter Field, Cowley County, Kansas

Ratio of Nitrogen to Helium in Natural Gases

FIELD	Nitrogen Percent	Helium Percent	Ratio
Morrison, Oklahoma	25.0	0.22	114
Ponca City, Oklahoma	40.1	0.36	111
Billings, Oklahoma	52.5	0.39	109
Loco, Oklahoma	16.2	0.17	95
Otto, Kansas	57.8	1.04	55
Dexter, Kansas	82.7	1.84	45
Augusta, Kansas	88.0	2.00	44
Vinton County, Ohio	15.1	0.43	35
Sedan, Kansas	55.7	1.94	29
Fredonia, Kansas	16.4	0.62	26
Vinton County, Ohio	9.6	0.40	24
Elmdale, Kansas	12.1	0.56	22
New Albany, Kansas	9.8	0.49	20

A gas having the highest helium content so far discovered in Kansas was found at Augusta, at a depth of 600 feet. The helium content of this gas was 2 percent.

A large anticlinal fold passes through Dexter and Otto, Kansas. This is the most pronounced structural feature in Cowley County. The gas field encountered on this folding was discovered in 1908 at a shallow depth of 325 feet. The Dexter field is located in the southeast of the county, in townships 32 and 34 S, Range 6 East. The structure is very pronounced and may be traced from the Oklahoma state line almost due north to Dexter, thence in a northeasterly direction to the northeast of the county.

The Otto anticline has 70 feet east or reverse dip in less than a mile. The north closure or dip is approximately 50 feet in less than 2 miles. On the west and south side of the anticline, the dip is very rapid for 50 feet, then the dip is not so sharp.

Some oil has been found in the Kansas City limestone, the Bartlesville sand and the Mississippian lime. The total amount of gas produced from the Dexter and Otto anticline was approximately one half billion cubic feet.

Plants Constructed

The Helium Company of Louisville, Kentucky, constructed two plants having a combined capacity of 12,000,000 cubic feet of helium annually. Its investment was in excess of $600,000. This company installed a new process requiring a single operating cycle which removes all other constituents of the natural gas at one time, leaving the helium. This process uses a small and efficient separating column. The operation consists of purifying the natural gas, compressing it and running it through a one cycle unit where the helium, at high purity, emerges under the required pressure for filling tanks for shipment.

Analysis of gas found in the Dexter field, 12-34s-6e, Cowley County, Kansas, is as follows:

Helium (He_2)	1.38
Carbon Monoxide (CO_2)	.32
Oxygen (O_2)	.10
Ethane (C_2H_6)	3.44
Propane (C_3H_8)	1.96
Nitrogen (N_2)	92.80
	100.00 percent

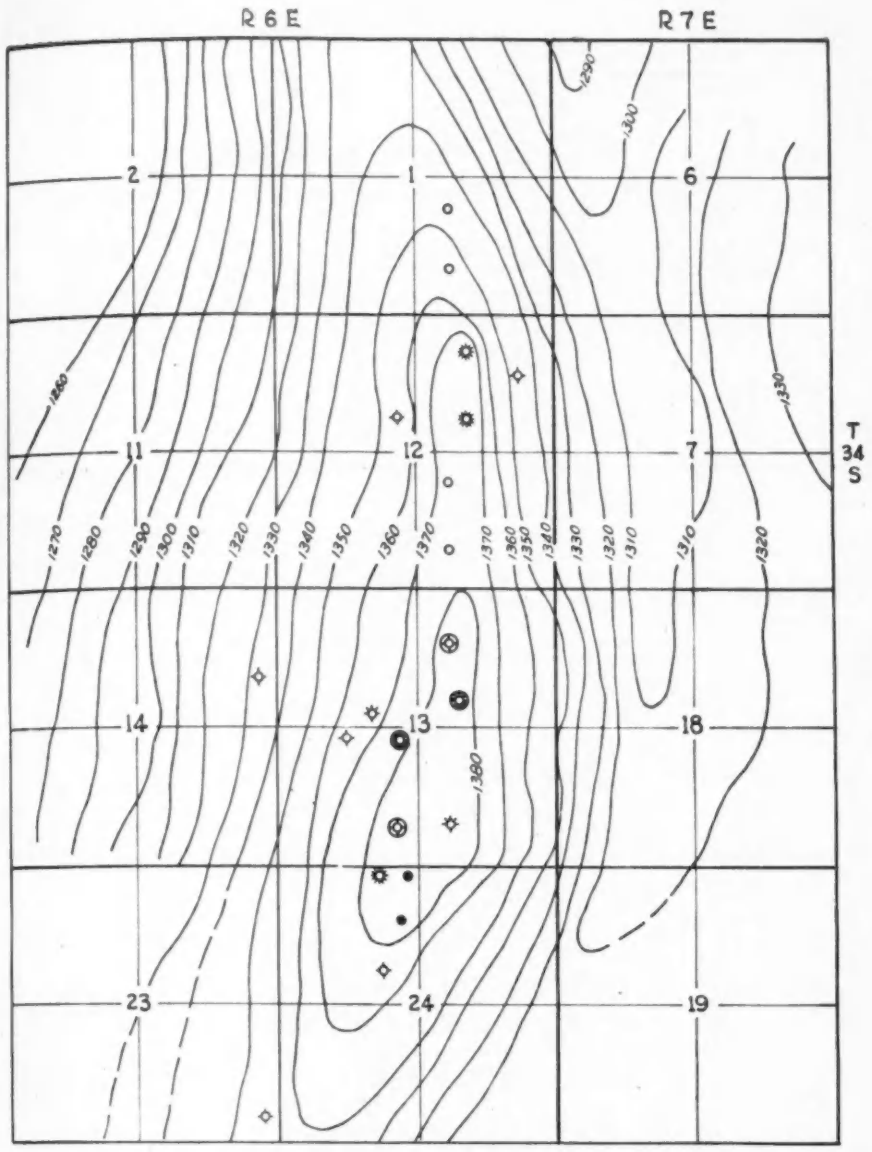
Texas Plants

The first helium plant was built at Fort Worth, Texas, at a cost of $2,000,000. The plant consisted of six units. Each unit was designed to process 44,000,000 cubic feet of natural gas per 24 hours. At the time the plant was constructed, the Petrolia field was the only field in Texas producing gas con-

DOBSON NO. 1
Dexter Field
Section 24, Township 33, Range 6E, Cowley County, Kansas
The Helium Company, Louisville, Kentucky

Soil	6	Slate	518
Lime	14	Lime	540
Red Rock	26	Slate	545
Lime	36	Lime	550
Slate	39	Slate	553
Lime	52	Lime	565
Shale	56	Slate	569
Lime	71	Lime	575
Shale	75	Slate	630
Lime	81	Sand	655
Shale	87	Slate	662
Lime	108	Lime	664
Shale	111	Slate	674
Lime	120	Red Rock	679
Slate	125	Lime	690
Lime	150	Shale	694
Shale	154	Lime	696
Lime	164	Shale	700
Shale	177	Lime	710
Lime	181	Shale	745
Slate	210	Slate	800
Lime	215	Lime	835
Shale	225	Shale	845
Lime	235	Lime	850
Slate	238	Shale	890
Lime	262	Lime	893
Slate	272	Shale	901
Lime	275	Lime	903
Shale	315	Red Rock	907
Sandy Shale	335	Shale	913
Sand	403	Lime	920
Slate	442	Shale	950
Lime	445	Lime	958
Shale	490	Sand (1½ M. gas)	967
Lime	510	Slate	983
		Sand (5 M. gas)	986
		Total depth	986

6,500,000 cubic feet—(Open flow)



Surface Structure Map, Otto Field, Kansas

BRUBAKER NO. 1
Otto Field
Section 12, Township 34, Range 6e, Cowley County, Kansas
The Trees Oil Company, Commenced July 28, 1929; Completed August 18, 1929

Surface	5	Shale	620
Lime	7	Lime	630
Shale	10	Shale	635
Red Rock	18	Lime	660
Lime	30	Shale	690
Red Rock	45	Shale	725
Lime	55	Lime	740
Shale	59	Shale	745
Lime	65	Lime	750
Shale	70	Shale	760
Lime	85	Lime (broken)	765
Shale	95	Slate	770
Red Rock	125	Lime	775
Shale	130	Slate	780
Red Rock	135	Lime (broken)	815
Lime (gas 155)	162	Slate	870
Shale and lime	195	Red Rock	875
Lime	220	Lime	880
Shale	285	Red Rock	890
Lime	290	Lime	1000
Shale	375	Shale	1015
Sand (gas)	382	Lime	1020
Shale	387	Red Rock	1025
Lime	392	Lime	1035
Shale	415	Lime (broken)	1065
Lime	420	Shale	1068
Shale	497	Sand (gas)	1081
Lime	565	Shale	1092
Shale	575	Sand (gas)	1097
		Total depth	1097

5,685,000 cubic feet—(Open flow)
Rock Pressure—233 pounds per square inch

taining over .05 percent helium. The gas occurred in the lower part of the Cisco formation of the Pennsylvanian age, the gas was encountered at 1500 to 1700 feet. The field was discovered in 1907. The largest helium gas field in the United States at this time is the Cliffside field, Potter County, Texas. This field is controlled by the United States and the gas is piped to the helium plant located in Amarillo, Texas. The helium bearing formation is encountered in the "Big Lime" of the Permian age, at a depth of 3200 feet. The helium content of this gas is 1.8 percent with a nitrogen content of 24.0 percent.

The method used for extracting helium from natural gas consists of a process of refrigeration. All of the gases except helium are liquefied. The helium is raised in purity to as high as 96 percent by reprocessing.

Helium was not produced on a commercial basis until the United States entered World War I. In 1917 an experimental station was built by the United States at Fort Worth for the purpose of extracting helium from natural gas. The plant was completed on March 6, 1918; the first helium was extracted April 8, 1918. This plant used the Lind's process. The first helium extracted had a purity of 27 percent; by reprocessing, the purity percent was raised to 70 percent. By July, 1918, the Fort Worth experimental plant was extracting 4000 to 6000 cubic feet of 70 percent helium. Since that date, the purity has been raised to 96 percent.

Natural gas containing helium has been found in many parts of the United States and Canada. Small amounts of helium have been found in natural gases in other parts of the world. It may be said, however, that the United States has almost a monopoly on the natural helium reserves. In 1932, reports were made that a helium discovery had been made in the British Island of Trinidad. At that time, Canada announced a new discovery of helium.

Natural gas containing helium was discovered in Vinton and Meige Counties, Ohio. The gas was found in the Clinton formation of the Silurian age at a depth of 2050-2450 feet. This gas contained 0.20 to 0.48 percent helium.

The Helium Company of Louisville, Kentucky, discovered a gas field in Las Animas County, Colorado; the gas was found at 910-1025 feet, containing 7.0 percent helium. The rock pressure in this field was very low—being only 12 pounds per square inch.

Other Discoveries

Utah also has several areas in which natural gas containing helium is found. A gas containing helium encountered at a depth of 3100-3165 feet in the Coconine sandstone of the Permian age has 1.31 percent helium. Grandy County, Utah, also has several in which the gas contained helium. In one of the areas, natural gas containing helium, was found in the Estrada sandstone of the Jurassic age. The gas was encountered at a depth of 860-945 feet: The helium content being 7.16 percent.

Natural gas containing helium has been found in Montana. The Kelvin-Sunburst field found a gas in the Cambrian at 4600 feet. This gas contained 0.73 percent helium. A small showing of helium was found in a natural gas encountered in the Pondra field. The gas is coming from the Madison formation of the Mississippian age. This gas contained 0.73 percent helium.

Several fields in Wyoming have wells in which natural gas containing helium have been drilled. In the Baxter Basin area, Sweetwater County, natural gas was encountered in the upper Cretaceous, at 2800 feet. This gas contained 0.86 percent helium. Helium-bearing gas has also been found in a well drilled on Pine Mountain Dome. The helium-bearing sand was found at 2800 feet. The gas contained 0.26 percent helium. The producing horizon was the Tensleep of the Pennsylvanian age.

The Filmore field, Ventura County, California, found a natural gas containing helium. The gas was found in the Tertiary at a depth of 600 feet. This gas had a helium content of 0.31 percent.

In Foreign Fields

Natural gas containing helium was found in Alsace; the gas contained 0.4 percent. The gas encountered had no commercial value, as it was only produced in small amounts.

Italy has drilled a few wells con-

taining very small amounts of helium. In the United States the showings would be considered as only a trace.

Germany has a gas field near the city of Hamburg, in which traces—only 0.014 percent—of helium were found.

Russia has developed a gas field in which the gas has traces of helium.

Natural gases having a rich helium content occur in many formations. However, in many of the fields, the percent of helium is not large enough to justify a helium extracting plant.

Helium has its largest demand in the inflating of dirigibles, as it has approximately 93 percent the lifting power of hydrogen, and will only diffuse through fabric at 75 percent of the rate of hydrogen. It is far more desirable, as it is not explosive.

Lifting Power of Gases in Balloons

GASES	Pounds per 1000 Cu. Ft.	Compared with Hydrogen Percent
Hydrogen	75.138	100.00
Helium	69.748	92.84
Methane (natural gas)	36.088	48.03
Ammonium	33.188	44.16

The first flight of a dirigible filled with helium gas was made December 6, 1921, when the C-7 blimp of the United States sailed over the capitol at Washington, D. C. A dirigible of the C-7 specification requires 180,000 cubic feet of gas. During World War I, the cost of filling the gas bag of the C-7 was $350,000. At this time, the cost was much lower.

Extensive Naval Use

From the Navy's viewpoint, the dirigible has a definite use. Therefore, most of the development of this type of airship has been developed by the Navy Department. The ZR-1, named the Shenandoah, was modelled after the German type L-49. This ship was put into operation in September, 1923. The ZR-3, named the Los Angeles, was received from Germany in October, 1924.

During recent years more experience has been gained in both construction and operation of "lighter-than-air" dirigibles, and many of this type of airship are now being operated by the Navy.

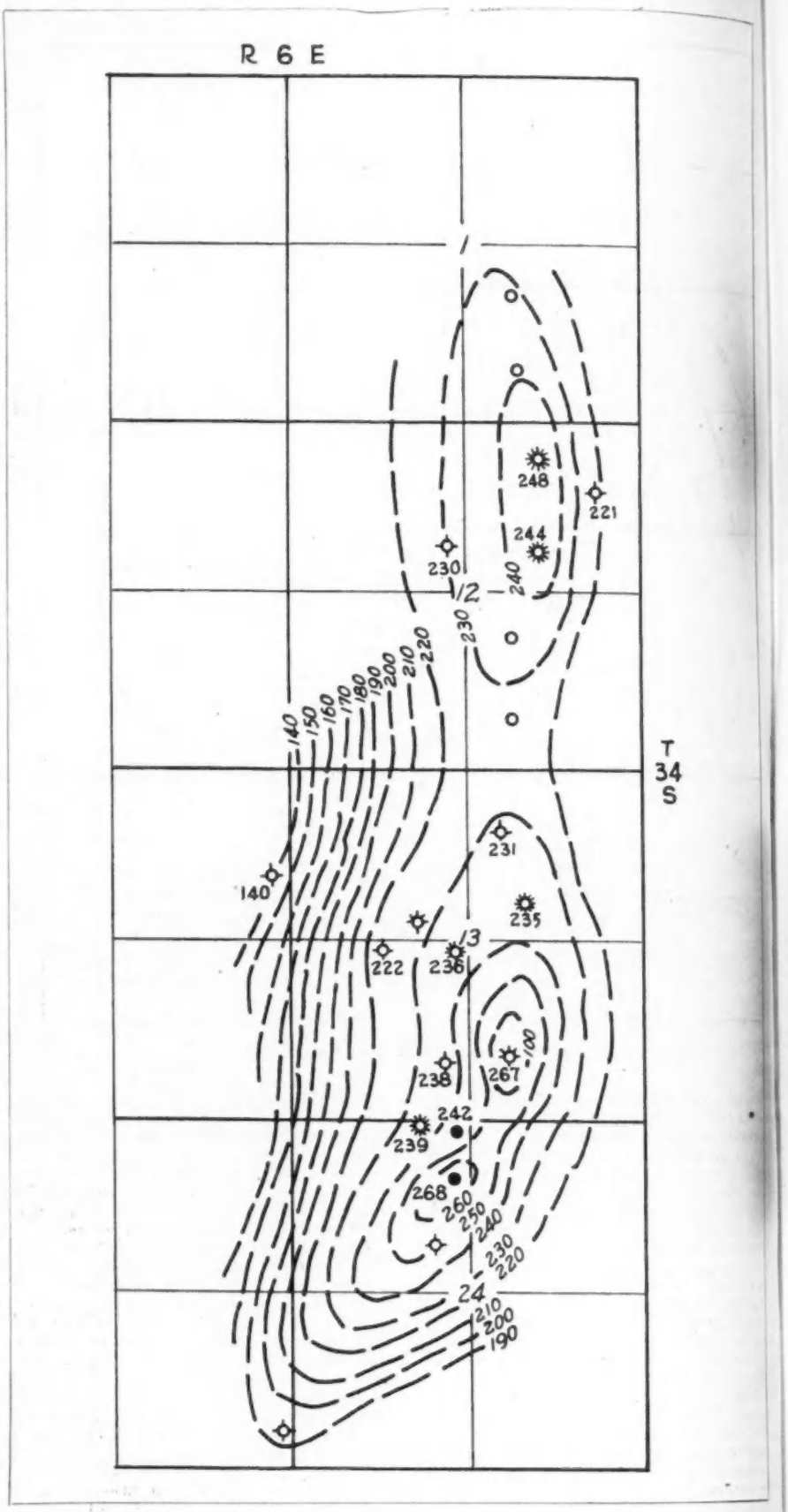
Adams Named Manager of Research Laboratories

General Petroleum Corporation of California, Los Angeles, announces appointment of G. L. Adams as manager of the company's research laboratories. He took over his new duties January 1, as a result of the retirement of former laboratory chief, G. F. Olsen, Sr.

Adams has been with General Petroleum since 1925 and has served as assistant manager of the laboratory department since 1941. He is chairman of the Aviation Gasoline Committee for District No. 5, PAW. He holds 12 patents ranging from crude dehydration to various refining processes.

Olsen had been with the company since 1925. He became laboratory chief in 1932. With his retirement he also relinquishes his duties as a director of the company.

J. A. Boege, who has been with the company since 1920, has been appointed general superintendent of laboratories.

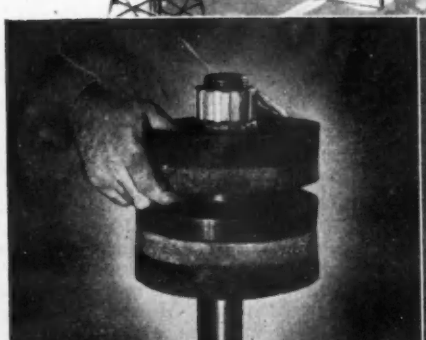


Surface Substructure Map, Otto Field, Kansas
Datum—Top of Helium-producing sand

Phillips Opens Laboratory

Phillips Petroleum Company's new research laboratory at Phillips, Texas, was to be opened January 5. The unit includes pilot plant facilities and is adjacent to the company's refinery and natural gasoline plant.

"CHANGE THE RUBBERS and SAVE THE PISTON!"



1. When rubbers are worn, you don't have to throw away the entire piston. Simply remove the old rubbers and save the body.

2. It's not even necessary to remove the piston body from the rod. You save on shut-down time when rubbers are changed.

3. NOW new Mission Rubbers are installed and the piston is ready for another long run at much less than the cost of a new piston.

Mission Slush Pump Pistons

1. **Tough, Specially Compounded Rubbers** last longer.
2. **Advanced Rubber Design** gives large wiping surface and positive seal, adding to the life of the rubbers and liners, and assuring more fluid per stroke.
3. **Replaceable Rubbers Reduce Piston Renewal Costs.** When rubbers are finally worn out the piston is renewed at much less than its original cost by simply installing new piston rubbers on the old body. These rubbers are easily replaced at the rig without removing the piston from the rod.

Use all
MISSION PUMP PARTS
They work together for best all round performance

Mission
MANUFACTURING CO.
HUMBLE ROAD HOUSTON, TEXAS

President of Sun Oil Company in year-end statement suggests less talk concerning postwar problems, points to effectiveness of private enterprise system. President of American Petroleum Institute pledges compliance with "demands of all-out war"

Government and Industry Should Concentrate on War

URGING both government and business groups to refrain from too much public discussion of postwar problems at this time and concentrate on the job of winning the war on the home front, J. Howard Pew, president of Sun Oil Company, stressed the danger of such distractions. In a year-end statement, the Sun president declared, "There is a very real need for all those in government to join with industry and our fighting men and women in making the job of winning this war our sole concern.

"The job which lies ahead for all of us," he continued, "is to concentrate on the winning of this war. Public discussion of postwar problems at this time only distracts from our prime objective. We have had too much talk of this kind from both government and business groups. It is particularly unfortunate that some people in our government are distracting attention from the winning of the war by projecting postwar planning schemes based on experimentation with new governmental, social and economic forms. Such action only sows seeds of disunity at a time when our nation must remain united."

Year of Achievement

For the American Petroleum industry, 1944 stands as a year of notable achievement, Pew said. It was a year of "unstinting devotion to the war job, of smashing records that had to be smashed. More oil was produced, refined, and delivered than in any year in history—and the quality was higher than ever."

Aviation gasoline in terms of billions of gallons, not as an industry-wide achievement, but as the achievement of individual companies, was heard of for the first time, in 1944. Pew observed that as a matter of fact, however, "the industry produced more aviation gasoline alone than the entire production of all grades of gasoline during the entire period of our participation in the last war."

An index of the petroleum industry's performance in 1944, according to Pew, was the production of the record-breaking total of approximately 1,677,000,000 barrels of oil. "That is 9 percent more oil than the United States produced during the entire five-year period of World War I (1914-18, inclusive). It is 11.3 percent above production in 1943. Compared with the two years in which we were engaged in World War I, the price of the oil produced during 1942-44 was one third less, despite substantially higher wages.

"Total demand for crude oil and products faced by the industry in 1944 amounted to 1,838,418,000 barrels, 12.7 percent higher than in 1943 and 26.2 percent higher than in 1940.

"If Germany fights through 1945, demands upon the petroleum industry will again increase. Estimated requirements for the first six months of 1945 are 8 percent above actual requirements for the first six months of 1944. I am confident that this demand will be met in full. These forecasts of still greater obligations ahead serve only to strengthen the petroleum industry's resolve to put forth even more effort to reach the new goals.

"It is with great personal satisfaction that I see this demonstration of the effectiveness of America's enterprise system. Competitive enterprise made the petroleum industry flexible and sensitive to great new demands upon its productive capacity. Competitive enterprise fired the work of the petroleum scientist so that new and amazingly complicated, powerful products could be supplied quickly, in adequate quantities, for our armed forces."

Boyd Statement

W. R. Boyd, Jr., president of the American Petroleum Institute and chairman of the Petroleum Industry War Council, observed that "The grave, continuing urgencies of this war and the onrushing problems of peace now demand from our government and our industries definite pledges of sustained and unstinted compliance with the insatiable demands of an all-out war, and equally firm commitments to accept realistically the boundless challenges of peace."

"For the vast American petroleum industry," he said, "which is still growing in scope and in service, it can be stated that there exists a firm determination to accept and bear proudly and honorably those inconceivably great responsibilities that have been thrust upon it by the absolute essentiality of its products to modern society. And not unmindful of the full meaning of its pledge to the millions dependent upon it for their transportation, security, safety, comfort, and way of life, petroleum hereby promises:

API Promises

1. "Its continued and complete devotion to America's first and greatest task today: the winning of the war and the securing of an enduring peace.

2. "Its unending effort to serve the American people with an always adequate supply of those countless petroleum products that have become so necessary to modern living.

3. "Its unceasing acceptance of its responsibility in maintaining and improving the already high standards of employment and opportunity in the petroleum industry.

4. "Its unreserved realization and proper discharge of its duties as one of the great basic elements of the nation's economy.

5. "Its constant and continued search for new and greater sources of petroleum, more and better petroleum products, and greater opportunities for employment and service—to the end that the American people and their government shall never find within the petroleum industry itself any reason for charging it with dereliction of duty or evasion of responsibility."

Texas' Part

Texas, standing today as the dominant oil producing state, "will continue to pour the life blood of mechanized warfare into the fight until victory comes," Maston Nixon, president of the Texas Mid-Continent Oil and Gas Association, pledged in a statement on behalf of the Texas petroleum industry.

"Events of the past fortnight have shocked us into some serious thinking," Nixon said. "We must re-examine and adjust every phase of our social and business life to mesh with the changed war situation.

"Texas producers of crude oil are pouring the very life blood of mechanized warfare into the fight at a rate far above the maximum prudent flow of the fields of the state. Fifty-four percent of additional crude oil needed for this global war has been produced by Texas and, I might say, at prewar prices even though the cost to replace has increased 50 percent.

"Now we are faced with the urgent need to continue the stream until victory comes. This we will do for the lives of American boys are more valuable than material things. All we ask is that the burden of production-with-waste be equitably distributed among all the producers of oil in Texas."

☆

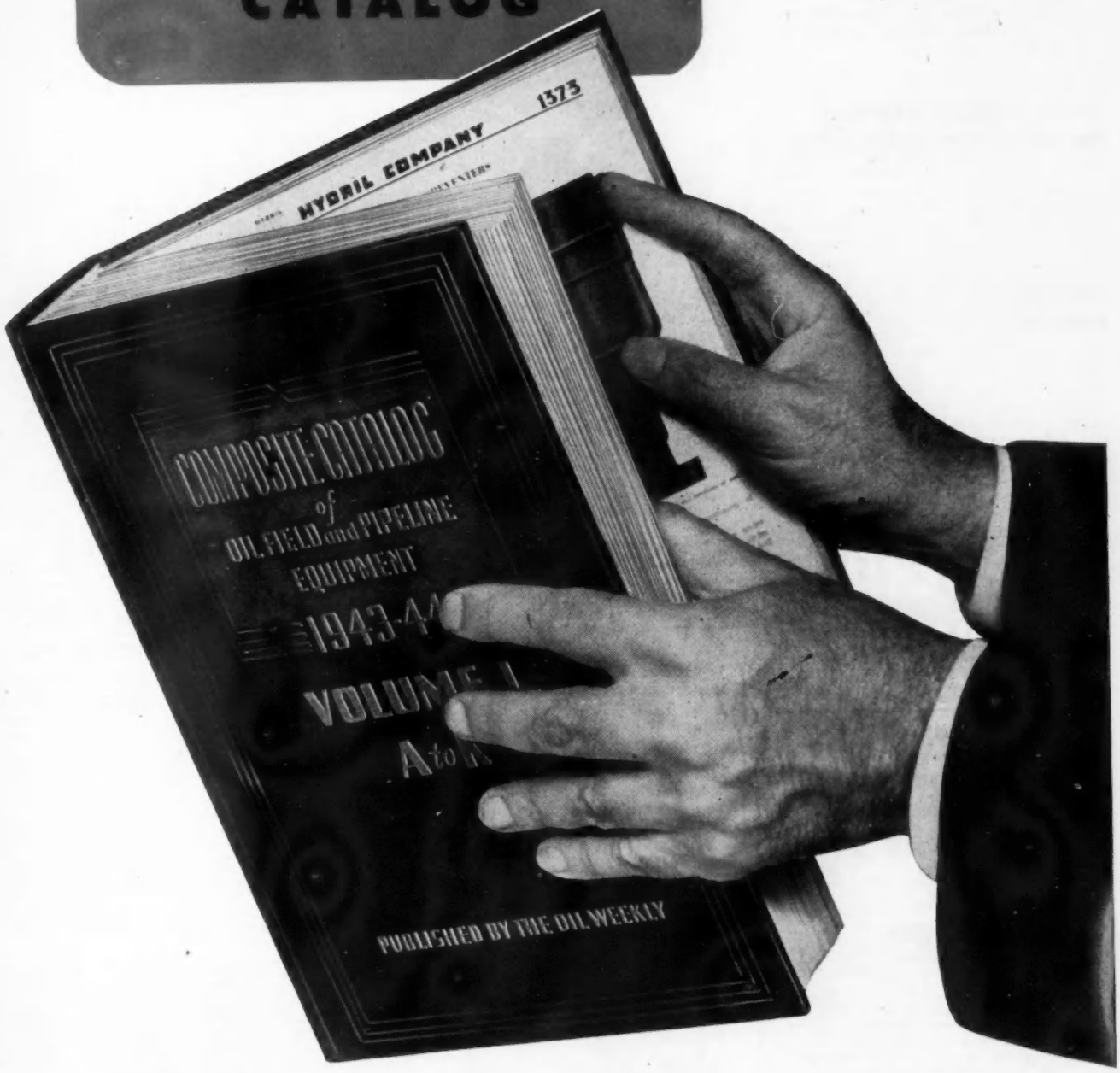
GEORGE S. WHYTE, 77, chairman of the board of directors of Macwhyte Company, died at Kenosha, Wisconsin, December 15. He was born in Crossgates, Scotland, in 1867 and migrated in 1889 to the United States. He became associated with the Leschen Macomber Whyte Rope Company in 1896.

Turn to Page 1350 for the

COMPLETE

HYDRIL

CATALOG



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Truck Radiator Shield Replaces Smashed Grille

Hazards of oil-field service frequently shorten the life of the grille over the radiator to a period even less than that of a vehicle on prewar crowded highways, and such loss of the grille exposes the even more vulnerable radiator core to possible injury. Since factory-made grilles are practically unobtainable, some sort of replacement is necessary if the soft core is to be properly shielded.

SERVICING EQUIPMENT

One company cuts to size sections of expanded metal and spot-welds them to the sides of the opening in which the ornamental grille formerly fitted.

Such a shield will stop all but the smallest flying gravel, will divert or bar off undergrowth which otherwise might cause damage and, while not as attractive in appearance as the original chromium-plated die-cast or drawn members, will serve as outer guard most effectively.

Where expanded metal is used, maintenance men and car washers should be warned that the edges of the diamond, being formed by shearing across thin plate, have sharp and often saw-toothed edges and can sometimes cause painful wounds.

The replacement metal should be painted after spot-welding, as otherwise the life is relatively short.

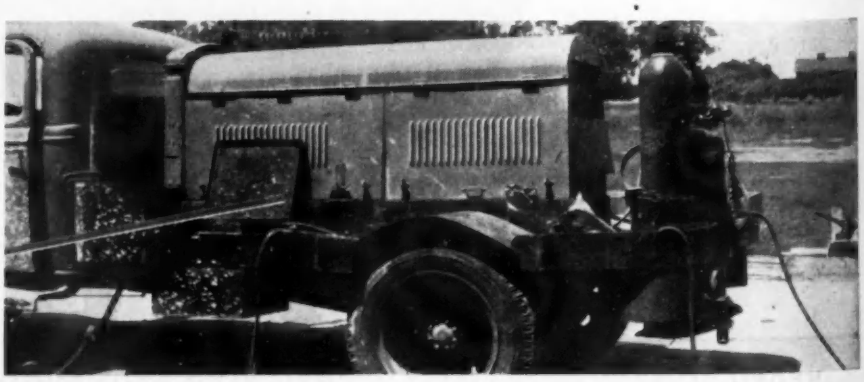
Use of expanded metal, tack-welded to edges of former grille frame, protects radiator core from damage by flying gravel and undergrowth flanking lease roads without cutting air circulation.

Welding Cylinder Wells Clear Power Unit Set-up

By extending the rear cross member of the truck frame and providing wells or recesses between the original bumper section and the extended unit, none of the original working space of the truck is lost, yet the wells will serve to carry the oxygen and acetylene gas cylinders in the proper position for immediate use.

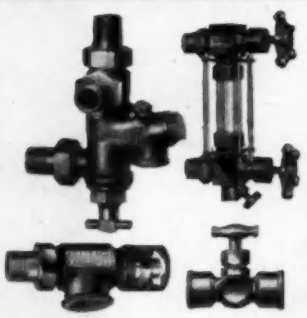
WELDING UNITS

The base of this extension is made sufficiently strong to guard the cylinders against possible damage from rough



Wells carried in extended rear cross member of welding truck carry gas and oxygen cylinders upright and speed up exchange, at the same time protecting units against collision damage.

PENBERTHY
QUALITY
PRODUCTS



Penberthy liquid level gages of various types—injectors—ejectors—lubricating devices all so widely used throughout the oil industry because they have always been dependable under the most severe service conditions.

All are of rugged construction and made by an organization with 57 years experience in the manufacture of quality products.

PENBERTHY INJECTOR CO.
DETROIT, MICH. Canadian Plant WINDSOR, ONTARIO

2¾% Nickel Steel locomotive rods, one bent cold to show ductility.

QUENCHED AND TEMPERED NICKEL STEEL FORGINGS COMBINE

EXCEPTIONAL DUCTILITY WITH HIGH TENSILE STRENGTH

Composition and Typical Properties of Normalized Quenched and Tempered 2¾% Nickel Steel Rods

Description or Size	Melt Yield Pt. No. #s per Sq. In.	Tensile Strength #s per Sq. In.	Elong. % in 2 In.	Reduction in Area %	ANALYSIS					
					Car.	Mang.	Phos.	Sul.	Sil.	Ni
Main Rod....	92900	110000	25.0	64.4	.31	.78	.027	.026	.25	2.75
Main Rod....	86500	104500	25.5	65.6	.32	.86	.034	.032	.29	2.69
Main Rod....	86360	104400	26.0	64.8	.32	.86	.034	.032	.29	2.69
Main Rod....	87850	102350	26.0	66.2	.31	.89	.037	.025	.32	2.69
Front Rod....	86000	102250	25.0	67.3	.29	.82	.035	.027	.24	2.71
Front Rod....	83900	104250	25.0	66.1	.29	.82	.035	.027	.24	2.71
Front Rod....	86850	104250	27.0	66.1	.32	.86	.035	.025	.30	2.65
Front Rod....	89500	107050	25.5	65.6	.32	.86	.035	.025	.30	2.65
Back Rod....	89500	107650	25.0	62.7	.30	.79	.030	.025	.22	2.71
Back Rod....	87500	106450	25.0	65.4	.29	.82	.035	.027	.24	2.71
Back Rod....	87000	105600	25.0	65.4	.29	.82	.035	.027	.24	2.71
Back Rod....	88150	104850	26.0	66.8	.29	.82	.035	.027	.24	2.71

Specimens Taken from Mid-Section of Prolongations of the Forgings

The above table compiled by the American Locomotive Company shows the chemical compositions and mechanical properties of some normalized, quenched and tempered nickel steel front, main and back rods recently produced as replacement rods for locomotives being speeded up and rebalanced. These values are typical of replacement rod forgings recently tested by that company.

Quenched and tempered nickel steel forgings provide high tensile strength and ductility, combined with unusual toughness and high fatigue strength—qualities which tend to obviate breakage and assure long, trouble-free service when employed in heavy duty machinery and equipment.

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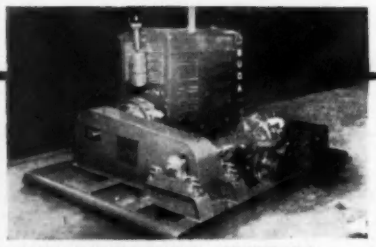

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BE SURE TO CHECK ....

TRADING POST SECTION

ON PAGE 69 OF THIS ISSUE

Because of the scarcity of certain types of new equipment and the fact that some operators may have a surplus of some items and a serious shortage of others, this **Used Equipment Forum** is performing a valuable service to operators in locating needed used materials or disposing of surpluses that may be needed by others.

roads, the entire weight of the cylinders being carried on the steel supporting plate. Lugs or brackets, welded within the aperture of the extended section, afford supports against which the cylinders may be held by chains, boomers or other quickly released fastening mechanisms.

Rattling of the cylinders on the road, as well as possible damage to the steel base plate, may be controlled by using oak pads inside the recesses, the wood being cut to fit loosely within the well, and too large to be lost out through road vibration.

Testing Mandrel Serves As Skidding-In Shoe

Mandrel dropped through casing to check diameter is allowed to project and form shoe for dragged pipe.

RUNNING TUBING

Use of a mandrel, slightly smaller than the interior diameter of tubing, saves setting in the hole pipe which will not accommodate the equipment to be run through it, and also serves to sweep from the bore any trash which otherwise might cause trouble in the production hook-up.

If the mandrel to be used as the tubing is tailed into the derrick for running, it may also serve to keep the lower end of the pipe closed as it passes over the ground and thus to exclude dirt or grit which if permitted to enter, would accelerate wear.

By checking the initial travel of the pipe with the snubbing line until the end of the mandrel has projected into the clear, the bar then serves as sliding as well as guiding member and the threaded end is protected from deformation caused by striking against an obstruction on its way to the well.

Tarpaulin Extends Life Of Maintenance Units

EQUIPMENT PROTECTION

Enforced extension of truck life through the shortage of new equipment has led many users to revert to practices formerly thought indispensable, but later disregarded in the attempt to get the job done with minimum hindrance. One of the safeguards formerly thought necessary and which has been revived is the use of a tailored tarpaulin to cover the cab and hood end of the truck during idle periods when adequate roofed storage is not available.

Such a tarpaulin, even when made of the relatively light canvas which alone is now available for civilian use, will not only aid in prolonging the life of the finish on outside metal parts—and thus extend their useful life—but it will also prevent weathering of wiring and exposed bearing parts, such as throttle-rod connections, controls and contacts, by preventing moisture from entering through the radiator core and hood louvres.

The tarpaulin also stops the use of the radiator as ready-made nesting place for mud-daubers with consequent loss of cooling capacity through reduction of air entering the unit during operation. Although heat from the engine cooling water soon is enough to kill the grubs in the mud cells, it cannot disintegrate the plug—instead baking it hard and making its removal difficult without damaging the thin copper wall of the cell.

The unit may be weighted along the lower seam, or may be provided with ties to fasten around fender brackets, bumper bars and other projections, as desired.

Tailored to fit over cab and hood of this servicing truck, with "sleeve" to fit over rearview mirror, this tarpaulin protects finish and prevents rain from reaching engine and wiring.

Daily Average Production Falls Off; Runs to Stills Up 116,000 Barrels

For the week ending December 30, the industry showed a decline in daily average production of crude amounting to 24,000 barrels. Runs to stills increased 116,000 barrels, with corresponding declines in stocks of gasoil and distillates.

The overall picture for the week showed production off by 24,000 barrels, runs to stills up 116,000 barrels, crude oil stocks up 500,000 barrels, weekly production of gasoline up 707,000 barrels with a gain in total gasoline stocks of 3,259,000 barrels, a slump of 348,000 barrels in output of gasoil, a drop of 1,351,000 barrels in stocks of gasoil and distillates, a gain of 358,000 barrels in yield of residual fuel oil, but a total decline in stocks of that product of 1,079,000 barrels.

Percentage changes in certain aspects of the industry during the year indicate trends that reflect what has been happening. For instance, production and crude runs to stills declined almost equally during 1944. The total yield of gasoline was off by percentage nearly twice the drop in crude production and the amount run to stills, and there was a drop in total crude stocks of 7.8 percent over 1943. Production of gasoil and distillates and stocks of both products gained almost in equal proportions, and there followed an almost parallel drop in output and stocks of residual fuel.

The declines in all types of stocks indicate the exceedingly heavy demand that has persisted throughout the year.

The most serious aspect is the further decline during 1944 of crude stocks by 18,735,000 barrels.

Thomas McManus Dies

Thomas W. McManus, 53, secretary of the San Joaquin Valley Oil Producers Association, died suddenly in a Washington hotel January 2 after a brief illness following his notification by the War Department just before Christmas of the death in action over France of his only son, Lieutenant Thomas W. McManus, Jr., 23 years old, of the Army air forces.

McManus, whose home was in Bakersfield, California, and since Pearl Harbor had been active in the industry's war effort in Washington, marshaling the force of California independent operators behind the government's oil-production program. A veteran of the last war, he had been active in national affairs of the American Legion, and his wide-spread activities included membership in agricultural and cattle growers' organizations.

Blazer Appointed

Appointment of Paul G. Blazer, chairman of the board of the Ashland Oil and Refining Company, Ashland, Kentucky, as a director of the Cincinnati branch of the Federal Reserve Bank of Cleveland, was announced January 2 by the board of governors of the Federal Reserve System.

☆

WALTER M. ANNETTE, manager of the New York branch of Hercules Powder Company, retired effective December 31, 1944. He served the company in two World Wars and in the interval between was a leading figure in the chemical and foreign trade circles in New York.

Texaco Benefit Plan

A hospital and surgical benefit plan for employes of The Texas Company and domestic subsidiaries has become effective throughout the United States. More than 93 percent of eligible employes have associated themselves with the project, which is voluntary.

☆

LIEUTENANT E. B. BALDWIN, former district geologist for the Arkansas Fuel Company, with headquarters in Houston, died January 1, in Pasadena, California. He was a veteran of World War I, and reentered the Navy in the summer of 1942, and was in command of a landing craft flotilla in the invasion of Normandy.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.
(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	[1]337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	47,861	11-14	95,857	1- 3
1943	4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	47,187	11-27	72,881	1- 2
1944	[1]4,762	9-30	[1]4,798	12-30	240,992	1- 1	89,162	4- 1	48,863	10-28	64,644	10- 7
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,382	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	[4]220,623	9- 9	76,302	1- 1	33,232	4-29	49,737	3-18

TRENDS OF 1943 AND 1944

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1943:									
January 2	3,871	3,734	233,938	10,957	82,420	4,285	42,913	7,683	72,881
January 30	3,826	3,698	233,863	10,339	88,830	3,888	37,057	7,452	70,763
February 27	3,873	3,709	235,217	10,566	93,157	4,230	32,939	7,839	70,140
March 27	3,896	3,742	239,126	10,231	94,079	3,541	30,980	8,018	67,938
April 24	3,913	3,737	242,035	10,583	91,001	3,954	31,142	8,168	67,455
May 29	3,970	3,679	245,752	10,656	83,937	3,798	32,274	7,672	67,682
June 26	3,955	4,015	242,657	11,092	79,589	3,876	34,044	8,126	67,960
July 31	4,133	3,788	238,420	11,127	74,977	3,765	36,363	8,478	66,877
August 28	4,196	4,227	236,170	12,420	72,525	4,351	37,928	8,732	67,250
September 25	3,344	4,156	233,013	12,206	70,024	4,608	40,328	8,560	66,659
October 30	4,383	4,176	247,219	12,813	69,297	4,642	44,591	7,968	63,833
November 27	4,414	4,261	239,761	12,638	69,980	4,379	46,187	8,633	62,143
December 25	4,363	4,185	241,310	12,597	74,024	4,457	43,791	8,689	57,596
1944:									
January 1	4,357	4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,085	4,054	37,266	8,889	52,857
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 25	4,385	4,443	236,285	13,362	87,287	4,979	31,319	9,013	51,669
April 1	4,383	4,435	234,667	13,824	89,162	4,450	30,530	8,367	51,326
April 29	4,431	4,300	235,342	13,126	88,462	4,284	30,236	8,398	49,985
May 27	4,514	4,532	234,423	13,502	86,468	4,702	32,035	8,568	49,812
July 1	4,587	4,638	228,860	14,052	83,559	4,496	35,360	8,872	52,235
July 29	4,608	4,627	225,112	14,115	82,665	4,833	38,135	8,900	56,280
August 26	4,667	4,698	222,931	14,112	80,740	4,566	41,453	8,680	59,839
September 30	[1]4,762	4,775	222,393	14,494	78,028	4,622	45,329	9,292	64,226
October 28	4,740	4,658	223,235	14,117	79,058	4,772	48,705	8,885	64,382
December 2	4,712	4,693	221,591	14,853	80,426	4,082	45,832	8,981	61,727
December 9	4,704	4,552	220,258	14,611	80,880	4,056	44,436	8,923	60,458
December 16	4,695	4,537	222,075	14,145	82,747	4,353	42,413	8,727	59,280
December 23	4,729	4,682	222,575	14,635	83,355	4,605	40,846	8,798	58,509
Dec. 30, 1944	**4,705**	[1]**4,798**	.....	**15,342**	**86,614**	**4,257**	**39,495**	**9,156**	**57,430**
Jan. 1, 1945	**4,362**	**4,471**	[5]**241,310**	**13,109**	**75,327**	**4,521**	**41,728**	**9,096**	**56,773**
Change:									
In week	—24	+116	+500	+707	+3,259	—348	—1,351	+358	—1,079
In year	—343	—327	—18,735	—2,233	—11,287	+264	+2,233	—60	—657
In year	—7.9%	—7.3%	—7.8%	—17.0%	—15.0%	+5.8%	+5.4%	—0.7%	—1.2%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922, due to shutdown six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, December 25, 1943.

FPC Denies Any Desire to Extend Its Jurisdiction Over Natural Gas

Members of the Interstate Oil Compact Commission and the governors and oil and gas authorities of the gas-producing states were assured last week by the Federal Power Commission that the government agency "has no desire to extend its jurisdiction to cover the production of natural gas or otherwise invade what are properly regarded as the functions of the conservation authorities of the several states."

The assurance was given, it was declared by FPC Chairman Basil Manly in a letter to Governor Andrew F. Schoeppel of Kansas, chairman of the Interstate Oil Compact Commission, to allay misunderstandings regarding the proposed power commission investigation of the natural gas industry which, it was indicated in a report of the FPC representative who attended the compact commission meeting in Jackson, Mississippi, "were being stimulated by representatives of oil and gas companies."

Chairman Manly's letter emphasizes that the FPC wishes to assure the representatives of all the gas-producing states "that the Federal Power Commission has no desire to extend its jurisdiction to cover the production of natural gas or otherwise invade what are properly regarded as the functions of the conservation authorities of the several states.

Compact Extended

"We recognize," the letter continues, "that the Congress, upon tht recommendation of the President, has approved and repeatedly extended the 'interstate compact to conserve oil and gas,' dated February 16, 1935. We are also aware of the progress which the states, cooperating through the medium of the Interstate Oil Compact Commission, have made in effectuating the will of the Congress, thus expressed, that waste and dissipation of the nation's irreplaceable resources of oil and gas should be prevented.

"It is our desire to aid the states in achieving this end in accordance with the provisions of Section 11(b) of the natural gas act which directs that: 'It shall be the duty of the commission to assemble and keep current pertinent information relative to the effect and operation of any compact between two or more states heretofore or hereafter approved by the Congress, to make such information public, and to report to the Congress, from time to time, the information so obtained, together with such recommendations as may appear to be appropriate or necessary to promote the purposes of such compact.'

"The immediate occasion for the institution by the commission of its investigation is that, in preceedings relating to the issuance of certificates of public convenience and necessity for natural gas pipe lines, intervenors, including representatives of certain gas producing states, have contended that the commission is authorized and, under the provisions of the natural gas act, should promote the conservation of natural gas by limiting or prohibiting its transportation and sale for certain so-called inferior end uses, such as boiler fuel. It has also been urged that the commission should deny certificates to take natural gas from states desiring to retain or utilize such gas within their own borders. With equal earnestness others insist that no restrictions should be placed upon the interstate transmission and sale of natural gas.

Seeking Full Views

"In dealing with these conflicting contentions in individual cases it has become clear that the commission does not have sufficient information to formulate a definitive policy on its part or to submit clear-cut recommendations to the Congress. We have accordingly instituted the investigation provided for in Docket G-580 not only as a means of developing the necessary facts, but also to give the gas-producing and consuming states, as well as other interested parties, full opportunity to express their views.

"We have been gratified by the constructive suggestions received from several of the major gas producing states, in response to our invitation, and especially by the declaration contained in the statement filed by the Corporation Commission of your state that: 'We welcome the opportunity presented for all parties to thoroughly air their views and we feel that from such investigation a great deal of good may come.'

Interference Not Aim

"We wish, in closing, to assure you and all others who may be interested that, in instituting this investigation, the commission has no desire to interfere with the several states in the full and effective exercise of their authority regarding either the production or local distribution of natural gas. The commission, of course, plans to utilize, as far as possible, the statistics and other information that have been accumulated by the various agencies of the states and of the federal government.

"All interested parties will be accorded a full hearing in order that we may, at the conclusion of the investigation, submit such a report as will, in the language of Section 11(a) of the natural gas act, 'aid in the conservation of natural gas resources within the United States and in the orderly, equitable and economic production, transportation and distribution of natural gas.'"

Atlantic Company Buys Rodessa-East Texas Line

Atlantic Pipe Line Company has purchased the United Oil Pipe Line Company's 68-mile 8-inch crude line, extending from the Louisiana sector of the Rodessa field to the East Texas field, where connection is made with the purchaser's 10-inch trunk line to Atreco, near Beaumont.

J. Harry Wood, vice president and manager of Atlantic Pipe Line Company, announced that no attempt will be made to restore the line to active service until after the war as its East Texas carrier is being used as a feeder for the Big-Inch while Atlantic Refining Company's 4500-barrel daily purchases in the Rodessa field are routed through other outlets.

The 8-inch unit was originally built by the East Texas Pipe Line Company, headed by Freeman W. Burford, in March, 1936, to handle Rodessa crude, and 3 months later was acquired by the United Interests for $200,000 cash and $700,000 payable in oil.

35-Mile Gas Transmission Line in Oklahoma Complete

Oil States Construction Company of Tulsa has completed 35 miles of 16-inch gas transmission line between Blackwell and Shidler, Oklahoma, for Cities Service Gas Company. This section will tie into a 16-inch line to be laid by Sharman & Allen of Houston for the same company and which will extend from Shidler to Caney, Kansas, where it will tie into Cities Service Gas Company's main gas transmission system, which draws from the Hugoton gas pool.

Gas Exportation Hearing Is Set for February 8

The Federal Power Commission has scheduled a hearing for January 9, in Buffalo, on the joint application of the Penn-York Natural Gas Corporation and the Republic Light, Heat and Power Company, Inc., for authority to the former to abandon and sell and to the latter to acquire and operate natural gas transportation facilities in Chautauqua County, New York.

The facilities included 3491 feet of 8-inch, 8134 feet of 6-inch, 1119 feet of 4-inch and 300 feet of 3-inch pipe line. Under the agreement between the companies Penn-York is to purchase natural gas from the New York Natural Gas Corporation, which it will sell to Republic, that company being obliged, in order to facilitate the handling of the gas, to build a compressor station at Sheridan, New York, and will require a pipe line from the station to its storage field near Arkwright, the points between which the Penn-York line runs.

The commission also will hold a hearing February 8 in Washington on the application of the Reynosa Pipe Line Company, Corpus Christi, Texas, for authorization to export 60,000 thousand cubic feet of gas daily to the republic of Mexico, for distribution in Monterrey.

Japan Claims Gasoline From Roots of Pine Trees

The Federal Communications Commission reports that a claim has been made by Domei news agency in a Tokyo broadcast, that the Japanese are producing high octane aviation gasoline from the roots of the pine tree. According to the broadcast, the gasoline thus obtained is superior to that obtained from petroleum, and is being mass-produced on an industrial scale through a "simple patented process."

Petroleum Consumption By U. S. Army Is Cited

Consumption of petroleum and its products in continental United States by the Army (exclusive of aviation) for the 6-month period from April to September, 1944, amounted to 72,420 barrels daily, according to figures released by the fuels and lubricants division, office of the Quartermaster General.

By products, consumption was as follows: 80-octane gasoline, 2680 barrels; other gasoline, 29,140 barrels; kerosene and solvents, 1430 barrels; Diesel fuel oil, 3040 barrels; other distillate fuel oils, 6780 barrels; residual fuel oils, 25,810 barrels; lube oils and greases, 1790 barrels; asphalts, 1270 barrels; and all other products 480 barrels.

These rates of consumption were expected to remain fairly constant through the last quarter of the year.

The fuels and lubricants division has established a comprehensive system to furnish the information necessary for close supervision and control of stocks and consumption. Every post, camp, station, port, depot, manufacturing plant, construction project, or other activity under the control of the Army in the continental United States prepares a monthly report of petroleum products used and held in storage. Thus it is insured that critical products are being properly used and that stocks are not being built up or maintained at excessive levels.

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J. H. MOYAR, superintendent of production for Stanolind Oil & Gas Company in the West Texas-New Mexico division with headquarters at Fort Worth, retired January 1 and is succeeded by George Card, assistant superintendent. Moyar entered the oil business shortly after the turn of the century at Oil City, Pennsylvania, and moved to Montana in 1920 to supervise wildcat operations. He joined Midwest Refining Company in 1922, and was assigned to the Texas Panhandle in 1929. He moved to Fort Worth in 1933.

FOSTER J. SCHEMPF, Fort Worth division geologist for Stanolind Oil & Gas Company, has been transferred to Houston, where he will be manager of the exploration department for the Gulf Coast division. He is succeeded by W. Dave Henderson, Midland, Texas, district geologist, who is relieved by Russell A. Farmer, formerly in charge of the Tyler district. G. T. Buskirk, Tyler geologist, has been placed in charge of the Tyler district.

CHARLES R. CANFIELD, North Texas geologist for Stanolind Oil & Gas Company, and G. G. Gallighan, former West Texas landman, have been designated as district geologist and landman, respectively, for the company's reestablished district office at Wichita Falls.

International Developments

Great Britain's Oil Search Extended to Scotland

The newest area of exploratory interest in the search for new oil fields in the British Isles is the Clyde River coal basin of Lanark, east and southeast of Glasgow.

D'Arcy Exploration Company, operators of the "secret" oil field in the Downs area, southwest of London, has completed geophysical surveys in the Scottish coal basin and has started a wildcat. Igneous domes throughout the area have formed structural closures involving a considerable section of middle and upper Paleozoic rocks.

While a number of the igneous masses are exposed at the surface, many more are rather deeply buried and may prove to have fixed the location of commercial accumulations of oil, especially in the sandstones and limestones that are the age equivalents of the Mississippian and lower Pennsylvanian rocks of North America.

Roumanian Tire Plant Now Working for Allies

Another European tire plant, Banloc, near the Ploesti oil fields in Roumania, liberated from German occupancy in August, soon will resume manufacturing operations, it is learned by The B. F. Goodrich Company.

Banloc was engineered, built and operated by B. F. Goodrich for Roumanian interests sponsored by that government until the outbreak of war in Europe.

The plant, with an annual capacity of 100,000 tires, had been running on a limited basis under German direction. The output of Banloc, when production is resumed, will go to Allied armies whose tire requirements have increased materially in recent months.

Shell Holds 9,000,000 Hectares in Ecuador

The government of Ecuador reports that Royal Dutch Shell interests have concession rights on 9,000,000 hectares of land in the Oriente region on the east side of the Andes, where a subsidiary, Anglo Saxon Petroleum Company, is drilling a wildcat for Shell Company of Ecuador.

Explorations Being Pushed In Maturin-Monagas Area

Current exploration would further prove areas beyond the already important fields of northern Monagas, Venezuela. In recent months Creole Petroleum Corporation has drilled a number of core tests for information to the north and the east of the Jusepin field, and is drilling a wildcat west of Maturin, capital of the state. Late in December the hole was below 3200 feet. In addition, Seismograph Service Corporation is running surveys for Creole in the same area.

In the Cedeno district of Sucre state, Socony-Vacuum Oil Company is conducting seismograph surveys of its recently-acquired concession block beginning 12 kilometers north of Sinclair's Santa Barbara field. West of this field United Geophysical Company is mapping the several blocks which Venezuelan Atlantic Refining Company recently acquired from Pantepec. Atlantic is hurrying preparations to start its first test here. The well will be spudded in January probably offsetting Mene Grande's Travieso producing acreage that is a westward extension of the Santa Barbara field. Atlantic also is getting a seismograph picture of its several small parcels west of Maturin, checkerboarded with Sinclair. United Geophysical Company has two seismograph parties working on Sinclair (Consolidada) properties in the Santa Barbara area.

Kline Tells of Oil in Iraq, Iran and Arabia

The present oil situation in Iraq, Iran, Saudi Arabia and surrounding territory was discussed by Mortimer Kline, at the December meeting of the Los Angeles Chapter of Nomads. Kline was associate general counsel for PAW, until recently. He had made a deep study of the situation while in Washington and presented his conclusions with the aid of maps.

Ivan Lebedeff, writer, lecturer and actor discussed the present foreign relations of the United States.

Clarence H. Lieb, Creole Oil Firm Head, Succumbs

Clarence H. Lieb, 50, president of Creole Petroleum Corporation in New York and former president of The Carter Oil Comany in Tulsa, died in West Palm Beach, Florida, December 30. He was born in Roaring Branch, Pennsylvania, and became associated with Standard Oil Company in 1917. He was named president of The Carter company in 1932 and in 1937 went to New York as vice president of Standard Oil Company of New Jersey, in charge of foreign production subsidiaries.

Lieb was chairman of the producing sub-committee of the Caribbean Area Petroleum Committee of the Petroleum Administration for War.

He was married in 1932 to Mrs. Letitia McClintock. He is survived by his widow, a foster son, John McClintock Lieb, 21, who is with the United States Army overseas, and a son, Frederick, 9; his mother, Mrs. T. H. Lieb, Williams Court, Pennsylvania, and his brother, La Rue Lieb of Detroit.

War Fund Increased

Sir William Fraser, chairman of the board of Anglo-Iranian Oil Company, Ltd., has announced an addition to the company's War Contingency and Defense Repair Account in the amount of 500,000 pounds sterling, bringing the total amount of the fund to 3,000,000 pounds. Dividend payments to the company's shareholders during 1944 were 20 percent, as in the two previous years.

U. S. Field Operations

California

Test of Upper Showings Planned in Deepest Well

Standard Oil Company's K.C.L. 20-13, in Sec. 5-31-21, world's deepest well, which stopped drilling at 16,246 feet, will be plugged back to 10,946 feet for a test of upper showings. The well was spudded July 31, 1943, and cemented 11¾-inch casing at 1188 feet and 7-inch at 10,999 feet.

The hole was drilled 967 feet deeper than the previous world's record of 15,279 feet, held by Phillips Petroleum Company's Pecos County, Texas, well.

Indicated operational difficulties were mainly responsible for the abandonment. Drill pipe was showing a tendency to stick in the hole. Pulling worn bits and reinserting new ones took nearly nine hours. The length of drill pipe used might stretch as much as 18 feet, while twisting itself several times in communicating the turn from the rotary table to the bit.

Fresno County: Standard Oil Company-Patterson 74-3, SE NE 3-16-14, logged gray sand in the Temblor and will drill to the Eocene.

Kern County: General Petroleum Corporation's Kernlandia 84-16 SE SE 16-29-27, swabbed dry from the 3898-3912 feet interval and will acidize.

Tide Water Associated Oil Company's McBean 86-36, NE SE 36-12-23, deep test in the Maricopa, was abandoned at 11,026 feet with no shows.

Santa Barbara County: Shell Oil Company has graded location for Dreyfus 1, SW 8-4-29, in the Naples area, 2 miles west of the Elwood field.

Ventura County: Beloil Corporation, Ltd.-Hickey-State 1, in Sec. 7-3-24, was wet on the shut-off test and again on the recement job, of the 8⅝-inch casing cemented at 3600 feet and is running a tester for a retest after recementing for the second time. Depth is 3628 feet.

Lloyd Corporation-Todd "A" in Sec. 6-1n-21w, ran a liner and is rigging to pump. Depth is 4208 feet with 8⅝-inch casing cemented at 3800 feet. On a shut-off test the well flowed by heads 12 to 14-gravity oil at a rate of 50 barrels daily.

Public Resources Code Changes Are Considered

The assembly interim committee on state-federal cooperation in petroleum problems, of the Oil Producers Agency of California, met recently in Sacramento, California, to receive testimony relative to and consider proposed amendments to the public resources code.

These amendments were drafted by a committee, W. L. Holloway, chairman, who testified that the proposed amendments were the result of joint study and joint research by many sections of the oil industry, after consultation with federal, state, county and municipal authorities having jurisdiction over petroleum matters.

The amendments relate to spacing of oil or gas wells, oil and gas leases on lands dedicated to public use, oil and gas leases on tide and submerged lands and beds of navigable rivers and lakes, oil and gas and mineral leases by counties and other public or quasi-public corporations, bodies or agencies.

In each instance it is planned to simplify the leasing of land for prospecting, or the actual location of wells, through these amendments. Facts constituting such necessity are stated as follows: "Due to the shortage of petroleum for the successful prosecution of the war, the war emergency requires that the maximum amount of petroleum be obtained and produced in aid of the war effort. This act provides a method whereby production of petroleum can be increased under safeguards which are not inimical to the public peace, health or safety and its early effectiveness is necessary to the prosecution of the war effort."

☆

WILLIAM S. COCHRAN has retired as attorney for Sinclair Prairie Oil Company after 20 years of service. Prior to his affiliation with Sinclair he practiced law in Tulsa and was associated with the late James C. Denton, general counsel for Mid-Continent Petroleum Corporation. Cochran will continue to reside in Tulsa, representing clients in the Mid-Continent and Gulf Coast region as special counsel.

California Industry Nears Maximum Output

California's maximum efficient rate of production will be reached by July, 1945, according to petroleum engineers, who generally agree that a daily average of approximately 916,000 barrels will be the absolute limit, barring major discoveries. These forecasts hinge on the success of 1000 routine drilling jobs scheduled for proved areas during the first half of this year.

A recent survey indicated that California pools with an unrestricted output showed about a one percent a month production decline, or 12 percent a year. New production in 1944 just about offset the natural decline.

☆

R. G. FOLLIS has been named assistant to president of Standard Oil Company of California, President H. D. Collier has announced. This newly-created position will be in addition to Follis' duties as vice president and director.

L. D. FOWLER, Oakland, California, has been appointed assistant manager of sales of integral-horsepower alternating current motors for General Electric Company, Schenectady, New York.

Wells Completed in the United States in Week Ended January 6, 1945

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†In-put	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative This Year	Cumulative Last Year
Arkansas	...	...	...	...	...	...	...	...	...	...	...	7	...	2
California	31	2	...	...	33	...	...	...	4	4	37	32	37	29
Colorado	1	...	...	...	1	...	1	...	...	1	2	3	2	...
Florida	...	...	...	...	...	...	...	...	1	1	1	...	1	...
Georgia	...	...	...	...	...	...	...	...	1	1	1	...	1	...
Illinois	27	...	...	7	34	3	3	...	9	12	49	53	49	26
Indiana	2	...	...	1	3	...	...	...	1	1	4	7	4	6
Kansas	9	5	...	4	18	1	1	...	7	8	27	22	27	36
Kentucky	7	...	...	2	9	...	2	...	7	9	18	13	18	12
Louisiana	6	3	...	4	13	...	1	2	4	7	20	11	20	9
North Louisiana	1	2	...	2	5	...	...	1	4	5	10	6	10	2
South Louisiana	5	1	...	2	8	...	1	1	...	2	10	5	10	7
Michigan	14	...	...	5	19	...	...	...	13	13	32	12	32	11
Mississippi	8	...	...	...	8	...	1	...	2	3	11	3	11	1
Montana	2	...	...	2	4	...	...	...	...	...	4	10	4	5
Nebraska	...	...	...	...	...	...	...	...	...	...	...	...	...	1
New Mexico	2	...	...	...	2	...	...	...	...	...	2	9	2	7
New York	15	...	10	...	25	...	...	...	...	...	25	25	25	19
Ohio	1	...	...	2	3	...	...	...	...	...	3	6	3	15
Oklahoma	18	2	...	10	30	2	1	...	6	7	39	43	39	26
Pennsylvania	27	5	15	...	47	...	...	...	...	...	47	48	47	42
Tennessee	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Texas	42	2	2	22	67	2	3	1	24	28	97	114	97	94
E. Texas	1	...	...	3	4	1	...	...	1	1	6	7	6	5
North Texas	10	...	1	10	21	...	1	...	7	8	29	32	29	18
W. Central Tex	...	...	...	2	2	...	...	...	...	...	2	5	2	6
West Texas	18	...	...	2	20	1	2	...	8	10	31	30	31	22
Tex. Panhandle	...	...	...	1	1	...	...	...	...	...	1	4	1	3
G. Coast, Upper	5	...	...	...	5	...	...	1	2	3	8	12	8	7
G. Coast, Lower	4	2	...	...	6	...	...	...	4	4	10	15	10	25
Southwest Texas	4	...	...	4	8	...	...	...	2	2	10	8	10	7
S. Central Tex	...	...	...	...	...	...	...	...	...	...	...	1	...	1
West Virginia	9	...	...	...	9	...	...	...	...	...	9	23	9	18
Wyoming	3	...	...	...	3	...	...	...	...	...	3	11	3	3
Total U. S.	224	19	26	59	326	8	13	3	79	95	431	452	431	364

*Includes distillate wells. † Includes salt water disposal wells.

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Oklahoma

Pool in Kiowa County Is State's First of Year

First pool of year opened; lease-royalty play extended by Cleveland County wildcat; Dolton pool extension probable; West Edmond enters new year with 323 producers.

The Pure Oil Company opened Oklahoma's first oil pool of the year, Hinton 1, SE NE NW 10-7n-17w, in north-central Kiowa County, north of Hobart. The strike is on the northern rim of the Anadarko Basin, major geological feature which is due for a big play this year. Hinton 1 flowed 60 barrels of oil an hour for 4 hours on initial test and is unofficially rated at 1500 barrels daily. Production is from Pontotoc sand in the Pennsylvanian from 1928-45 feet. On drill stem test the well headed and flowed immediately. With oil string set it was shut in over the holidays and when crew ran tubing and washed, it immediately began to flow. Pure holds a block of several thousand acres. Oil is sweet and tests 39 gravity.

Cleveland County: O. G. Harp was testing Mattheson 1, NE NW NE 19-10n-2w, 2 miles east of Moore. The wildcat flowed on drill stem test from Bartlesville sand at 7568-7607 feet an estimated 350 barrels of oil an hour. Total depth is 7624 feet. The Mattheson well is on a 600-acre block and lease-royalty play has extended 2 miles east to the edge of the old Moore field.

Osage County: W. N. Dunn et al may have an extension to the South Dolton pool, northwest of Tulsa, as Osage 5 SE NW NE 18-24n-8e, topped the Hominy sand at 2793 feet and after drilling to 2805 feet and cleaning out looked like a 200-barrel daily flower with prospects that it would get better after being acidized. The test is about 800 feet north of operators' Osage 2, completed 4 years ago and still pumping about 30 barrels daily with a cumulative production of more than 60,000 barrels.

Oklahoma County: Phillips Petroleum Company has taken over Kerlyn Oil Company's Classen 1, wildcat in NE SE 22-12n-4w, south of Bethany and has set casing for production test. The wildcat is on the west flank of the Oklahoma City pool and on a trend south of West Edmond. While information has been withheld, the following tops are considered fairly accurate: Hunton 7131 feet, Haragan 7150 feet, Chimney Hill 7210 feet, Sylvan shale 7270 feet. The test probably will be drilled to the Wilcox.

Moore Area: Magnolia Petroleum Company is drilling in Anneler 1, CSW NE 26-6n-1w, wildcat southeast of Lexington, planning to reach Wilcox. The well logged a good oil show in Bartlesville sand where drill stem test from 6070-86 feet recovered 170,000 feet of gas, 240 feet of clean oil, 90 feet of oil-cut mud and 30 feet of salt water. Sand was topped at 6080 feet. If the test is successful Sohio Petroleum Company's Pehlman 1, NE NW NW 35-10n-3w, south offset to the South Moore discovery which was reported checking low on deeper formations, may back up to test Bartlesville sand topped at 7894 feet. Drill stem test at 7905-30 feet developed considerable gas but the test was only partially successful due to heavy water load.

Okmulgee County: Mid-Continent Petroleum Corporation's Daniels 9, NW NW SE 12-13n-13e, about 2 miles east of Okmulgee, may influence drilling for deeper pay in the county's numerous small, shallow pools. The well is expected to test Arbuckle around 4000 feet and may even be drilled deeper. Pools in the neighborhood of the test are producing from 4 or 5 horizons between 1400 and 3000 feet.

West Edmond: This 4-county pool enters the new year with 323 producers, of which 316 are in the Hunton zone and 5, including a gasser, in the Bartlesville. There are 117 active operations, including 16 testing wells. Thirteen dry holes have been drilled in the pool, which embraces parts of Oklahoma, Canadian, Logan and Kingfisher Counties.

Logan County: F. C. Hall et al continue testing Perdue 1, wildcat in SE SE SW 24-19n-4w, east of the Marshall pool. While cleaning out bridge it bailed some clean oil from Layton sand topped at 4759 feet and drilled to 4881 feet. When crew went back into the hole there was an estimated 3000 feet of fluid, of which about 80 percent was clean oil.

Oklahoma Utilities Group Names Officers, Directors

D. S. Kennedy, vice president and treasurer of the Oklahoma Gas & Electric Company, has been named president of the Oklahoma Utilities Association, succeeding E. C. Joullian, president and operating manager of Consolidated Gas Utilities Corporation.

Other officers include A. F. Potter, district manager, The Gas Service Company, Bartlesville, Oklahoma, first vice president: S. I. McElhoes, director, Public Service Company of Oklahoma, Chickasha, Oklahoma, second vice president; E. C. Joullian, treasurer; Miss Kate A. Niblack, Oklahoma City, secretary.

Directors elected are: A. L. Farmer, president, Northern Oklahoma Gas Company, Ponca City, Oklahoma; J. C. Happenny, president, Oklahoma Power & Water Company, Sand Springs, Oklahoma; E. C. Joullian; R. K. Lane, president, Public Service Company of Oklahoma, Tulsa; S. I. McElhoes; J. Y. Wheeler, Oklahoma manager, Lone Star Gas Company, Sherman, Texas; W. L. Woodward, president, Zenith Gas System, Inc., Alva, Oklahoma.

Amended Basic Order on Hugoton Gas Pool Issued

Oklahoma Corporation Commission has issued an amended basic order covering drilling and producing practices in the Guymon area of the Hugoton gas pool, replacing an order issued in May and paralleling a similar basic order issued by the Kansas Corporation Commission to make operations in the two-state gas pool uniform. The order was effective January 1.

One of the amendments of the previous order permits communitization of leases in adjoining sections upon application to the commission. Only one well per 640-acre unit is permitted and allowable production is based on such a unit. The original order provided for unitization by government survey sections.

Kansas

Brown County Discovery Pumps 85 Barrels Daily

Important new strike pumping 85 barrels daily; large gas area in northeastern Barber County possible; Sedgwick County test may be pool opener.

Clifton Gall's Livengood 1, NE NW SW 3-1s-15e, important new strike in northeastern Kansas 10 miles southwest of the Falls City, Nebraska, pool, went on the pump and is producing 85 barrels of oil and 25 barrels of water daily from Hunton lime. The wildcat was the first commercial production for Brown County and revived interest in the Hunton zone which had cooled following dry holes on Ohio Oil Company's Sabetha block in Nemaha County. The Livengood is producing from 2578-90 feet, total depth.

Barber County: Operators see a possible large gas area in the northern section of the county as Lion Oil Refining Company's Lemon 2, SE NE NE 28-30s-13w, recovered more than 2,000,000 cubic feet of gas on drill stem test in Viola lime topped at 4527 feet. Section tested was between 4530 and 4540 feet. Speculation that this may be located in a large gas area in Twps. 30-13 and 14w and 31-13 and 14w revolves around the fact that 3 other gassers drilled in the 2 townships have tested gas from the same horizon and all indicating to be structurally flat.

Sedgwick County: Anderson-Prichard Oil Corporation has a possible pool opener at Barthalmew 1, NW NW NW 8-27s-4w, where pipe was run for production test. Topping Viola at 4035 feet, operator made a drill stem test between 4026-37 feet and recovered oil-cut mud. Core cut from 4037-42 feet recovered 5 feet of saturated Viola lime.

Ellis County: The Carter Oil Company's Matheson 1, CSE SW 24-11s-16w, wildcat 2 miles west of the Fairport pool, was testing Lansing lime after carrying hole to 3465 feet in Arbuckle and plugging back to 3303 feet, where an oil show had been logged. Formation was shot at 3284-3305 feet.

Marion County: The Texas Company abandoned Schmidt 1, wildcat in the SW SW SW 31-20s-3e, a mile southeast of Hillsboro. The Mississippi was logged at 2584 feet, Simpson sand at 2972 feet, and Arbuckle lime at 3048 feet. The hole was carried to 3150 feet with no oil or gas shows reported.

New Mexico

Turner Area Shapes Up as Substantial Oil Reserve

The Turner sector of the South Lovington area is shaping up as a substantial oil reserve, with the 12 completions averaging 275-foot zone of broken saturation in the San Andres.

The Texas Company's State 2-A-H, expanded production ½ mile west with a natural flow of 368 barrels daily through choke from pay at 4770-5160 feet. This outpost found the San Andres only 4 feet low to the nearest well and

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is higher structurally than wells on the north end of the Turner sector. The company's State 1-A-J will try for ½-mile west extension.

Development of the Skaggs deep area opened between the Monument and Skaggs regular Permian lime field by Continental Oil Company et al will be on a continuous schedule. The discoverers are starting a southeast offset, while Stanolind Oil & Gas Company has authorized a southwest offset. Continental Oil Company et al's Skaggs 2-B-23 made a natural flow from the Wolf Camp, or Abo, topped at 6770 feet with pay extending to 7740 feet. The well flowed 247 barrels of 41.4-gravity sour oil through 15/64-inch choke on latest gauge through perforations at 7700-25 feet, An oil zone in the 6700-foot level, that showed favorably on electrical formation survey and samples, has not been tested.

Wildcats: Humble Oil & Refining Company's Keinath-Federal 1, near the east line of Lea County, resumed drilling after testing water in unidentified lime at 9698-9738 feet. Rowan Drilling Company's Simmons 1, C SE SE 18-10s-38e, was abandoned in water at 5555 feet.

The Texas Company's State 1-A-G, north of the Vacuum field, was drilling gray lime at 7115 feet, while Phillips Petroleum Company's Lea-Mex 4, 1¼ miles north of the east sector of the Maljamar field, was drilling at 8655 feet without shows.

West Texas

Prolific Ector County Field Is Established

Ector County has first pre-Permian production; Clear Fork wildcat logs oil stain; Mabee field extension indicated.

Ector County: The wildcat of Shell Oil Company and Cities Service Oil Company on the T. P. Land Trust 80-acre lease established a prolific field and the first pre-Permian production for the county in flowing 1451 barrels of 41-gravity oil with gas-oil ratio of 837/1 on 18-hour gauge through ½-inch tubing choke. The flow had stepped up to 86 barrels the last hour of this test, and the amount of rotary fluid decreased to 4 percent.

This performance followed treatment with 1000 gallons of acid in perforations at 7886-8020 feet in Devonian, topped at 7860 feet with elevation of 2229 feet. Previous attempts to produce from Silurian perforations at 8810-20 feet and in the Lower Devonian were unsuccessful, although the Silurian had indicated production on drill stem test.

The Texas Company's T. P. Land Trust 1-B, 4 miles southeast of the above strike, was drilling hard chert at 8141 feet, making 8 feet in 24 hours.

Andrews County: Magnolia Petroleum Company's Martin 1, Clear Fork wildcat, logged first oil stain and porosity at 6990 feet with an increase at 7020-25 feet. A drill stem test at 7055 feet proved dry, while a second test at 6985-7085 feet returned 4950 feet of sulphur water. Stanolind Oil & Gas Company's University 1-D, wildcat rated as an outstanding Ordovician prospect through having passed up promising production from the Devonian and several zones in the Lower Permian, met with a reversal in testing much sulphur water in Ellenburger at 10,057-10,018 feet. It was drilling to 10,235 feet to explore the zone before running pipe to complete in one of the upper pays.

Mabee Field: Texas' Mabee 40 has indicated a ½-mile east extension into Martin County, and was drilling plugs from 7-inch casing at 4601 feet. The company has completed 33 pumping and flowing wells without a failure, and will have more than 100 producers before development work is concluded.

Fullerton Field: Magnolia's Lowe-Bitler 1-C, ¾-mile northwest of the most northeasterly producer, flowed 15 barrels hourly, including 5 percent rotary fluid, while cleaning itself after using 2000 gallons of acid in Clear Fork at 6745-7115 feet. This is the fourth consecutive extension by the company for this sector of the field, thereby proving in excess of 2000 acres, including possibly 40 drilling sites on its own acreage.

Magnolia's Ralph 1-A, a mile west of the field and a failure in the Devonian at 8114-8390 feet, was drilling lime at 9225 feet with the Ordovician as its objective.

Winkler County: Continental Oil Company's Walton 1-D, ¼-mile west of a normally situated Ellenburger well on the west side of the Keystone-Ellenburger field, was drilling dry dolomite at 10,477 feet in Ellenburger, topped at 10,180 feet, or 1022 feet low. No saturation has been evident in formation samples, while a single drill stem test at 10,310 feet was incomplete. This unusual dip in structure was indicated by another company's geophysical survey.

Dry Ellenburger: Phillips Petroleum Company's Bartley 1, Lynn County and 5¾ miles southwest of the P-H-D pool, was abandoned in granite at 9900-09 feet. Barren Ellenburger was at 9352-9860 feet.

Humble Oil & Refining Company contributed 2 deep failures in completing Matador 2-B, Motley County, at 6722 feet, and Keel 1, Mitchell County, in sulphur water at 7875 feet. The latter is the highest of 5 Ellenburger dry holes in Mitchell County. Texas' Garmon 1, Tom Green County, was plugged after an unsuccessful test of 20-foot zone of nominal oil saturation, including 5 feet of Ellenburger, topped at 4975 feet.

Pecos County: Magnolia's Hart-State 1, 2 miles southwest of Abell field, was swedging out collapsed casing that developed while flowing a small amount of oil and drilling fluid from Waddell sand at 6073-6100 feet.

Howard County: Herman Brown and J. C. Karcher's Caldwell 1-B, 19 miles west of the Vincent 2-pay pool, was drilling shale at 6510 feet after temporarily passing up nominal oil and gas shows in broken sand, lime and shale between 6073-6234 feet. A drill stem test at 6098 feet yielded 1800 feet of rotary fluid, while 4¼-hour test at 6075-6234 feet returned 2250 feet of rotary fluid with the bottom one-third of the fluid slightly gas-cut. A further test undoubtedly will be made of this zone.

Upton County: Humble's Parrott 1, wildcat that almost made a commercial pumper from broken saturation in Clear Fork at 7250-7575 feet, was drilling shale at 7780 feet to explore the Ordovician. Magnolia's American Republics 1 was drilling shale at 8080 feet. Standard Oil Company of Texas' McElroy 1 tested salt water at 6746-6850 feet, having plugged back from 7183 feet, and will make another test at 6440 feet.

North Texas

Deeper Zone Established By Test Near Sivells Pool

Cooke County test establishes deeper and more prolific zone near Sivells Bend pool; Clay County test shows promise of production from Strawn; excellent dual completion listed in Throckmorton County.

Cooke County: The Texas Company's Beasley 1, J. McKerley Survey and ⅛ mile west by south of the Sivells Bend pool, established a deeper and more prolific zone in flowing 27 barrels of 40.6-gravity oil per hour on natural test through ¾-inch tubing choke from perforations at 6817-63 feet.

Production is from Strawn sand, which was not productive in the company's Rasure 1 discovery from perforations at 6755-63 feet after plugging back from Basal Strawn at 7518 feet. Beasley 1 found the 6700-foot shaled out, and is currently the deepest Strawn production in North Texas. These wells indicate the area will be subject to erratic sand conditions.

Sun Oil Company's Butler 1, east offset to Rasure 1, was drilling at 2610 feet, and Sinclair Prairie Oil Company is starting its offset. The oil is trucked to Sinclair Refining Company's trunk line.

Phillips Petroleum Company's English-Eppie 2, J. F. Davidson Survey A-336 and offset to its first test that was junked while showing for a producer in the 2400-foot conglomerate, missed the pay section and abandoned in schist at 2439 feet.

Al G. Hill et al's Atcheson 1, W. D. Easley Survey 1¼ miles northwest, was credited with having reached schist at 1702 feet. Maguire Industries, Inc.'s Hoenig 2, John C. Morgan Survey A-151 and twin to its 3510-foot failure that passed up possible production at the 1400-foot level, was abandoned in shale at 1430 feet.

Throckmorton County: Standard Oil Company of Texas and Hanlon & Buchanan, Inc.'s Donnell 2, northwest sector of the Murray field, is listed as one of the best dual completions in the district. This well flowed 2136 barrels potential through ½-inch choke after using 500 gallons of acid in Mississippian open hole at 4508-18 feet, and 1224 barrels potential through ¾-inch following 3000-gallon acid treatment of Bend perforations at 3792-97 feet.

Grayson County: The Pure Oil Company's Little 1-A, Gordonville geophysical prospect and a scheduled 11,000-foot Ellenburger test, was preparing to make a drill stem test in broken sand and shale at 9003 feet after elctrical formation survy. Texas' Handy 1, a mile south of Orlena and a scheduled deep test, was drilling shale at 2055 feet. These prospects involve geologically a trend originating in Southern Oklahoma.

Clay County: Continental Oil Company's Morris 1, W. C. Davis Survey and a mile south by east of the West Ross pool, was showing promise of production from Strawn perforations at 4754-74 and 4778-96 feet in swabbing 3 barrels hourly with 50 percent oil and balance fresh water. It was drilled to Ellenburger at 5752-5870 feet, and

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proved dry in testing Simpson and Bend perforations. The Texas Company's Hapgood 1, wildcat 1¾ miles southeast of the Hapgood pool, entered the Ellenburger at 7003 feet, and proved barren in drilling to 7101 feet. It will be plugged back to retest a highly porous oil and water zone in the Simpson, topped at 6675 feet, while the Bend will also be tested.

Pipe Line Official Retires

O. H. (Red) Powell, Fort Worth division superintendent for Stanolind Pipe Line Company, terminated 42 years of continuous service with pipe line companies in the Mid-Continent upon retiring January 1. His first pipe line job in 1903 with the old Prairie Oil & Gas Company, which became Prairie Pipe Line Company in 1915. A year later he joined Sinclair-Cudahy Pipe Line Company and then as Stanolind Pipe Line Company. Powell was assigned to Texas in 1919 and has been in charge of operations between Oklahoma and the Gulf Coast.

East Texas

Initial Showing Bested by Upper Rodessa Discovery

Upper Rodessa test surpasses initial showing; Freestone County test to try for completion; Van Zandt County wildcat tests Travis Peak.

Lone Star Producing Company's Lee 1, B. C. Walters survey and on the Athens geophysical prospect, surpassed its initial showing on Christmas day by testing 240 barrels of 46.6-gravity oil with gas-oil ratio of 1650/1 on natural daily flow through 5/32-inch choke.

Production is from Bacon, or Upper Rodessa. Perforations are at 8198-8208 feet, operators having plugged back from barren Travis Peak at 8943-9242 feet to 8900 feet. This discovery has not tested possible production in the 8300-foot Rodessa and saturation in the lower Pettit at 8810-25 feet. The area involves an anticlinal nose, and location was picked on geophysical information supported by subsurface data afforded by numerous Woodbine failures in the vicinity of Athens. Magnolia Pipe Line Company's East Texas-Corsicana 12-inch carrier is nearby.

The Texas Company's Morse 1, Chandler prospect in eastern Henderson County, was coring black lime at 9930 feet without shows since passing up nominally gas-cut mud on test at 9424-91 feet in the Bacon. Gulf Oil Corporation's Frizzell 1, Baxter-Pine Grove prospect, was drilling lime and shale at 9285 feet, and Humble Oil & Refining Company's Jones-Huddleston 1, Eustace area, and also a Travis Peak test, was drilling chalk at 3380 feet.

Hunt County: Ohio Oil Company has moved in materials to drill a Smackover lime, or 10,000-foot test on its Valene Popper 286.39-acre lease in the M. Roberts survey and 2½ miles southeast of Cash. The company drilled a 4488-foot Paluxy failure to the southeast last year.

Freestone County: The Texas Company's McKnight 1, prospective gas-distillate discovery from the upper Travis Peak and 3 miles southwest of Fairfield, had reached the water level in coring at 8418 feet, and will set pipe to try for completion.

Van Zandt County: Lone Star Producing Company's Goode 1, D. Rose survey and southwest of the Van field, entered the Georgetown at 3840 feet and Paluxy at 4822 feet with dry sandy-shale to 4845 feet. Humble Oil & Refining Company's Bruce 1, wildcat that has been in process of completion for some weeks, pumped 91 barrels of oil on a 17-hour test from Travis Peak perforations at 8524-44 feet.

Wood County: Amerada Petroleum Corporation's Gamblin 1, 1400 feet north by east of the Winnsboro field discovery, flowed 25 barrels of 49-gravity oil with gas-oil ratio of 20,000/1 on ⅛-inch choke in 12½ hours, and will be equipped with a high-pressure separator because of excessive gas. This production is from perforations in the Bacon at 7845-62 feet. A test is to be made of the 8200-foot Gloyd, which has accounted for one well. H. L. Hunt's Craddock 1, ¾ mile west by south of the discovery, showed favorable saturation and structurally high in the Bacon, and was coring for the Gloyd zone. This outpost may touch off an aggressive development program.

Hopkins County: Sun Oil Company's Turner 1, 2 miles northeast of the Pickton field's 7800-foot Bacon discovery, was drilling at 7015 feet, having successfully sidetracked junk at 6605 feet. Top of Glen Rose was called at 6730 feet, or 10 feet low to the producer. Hunt Oil Company's Sprigner 1, offset to the discovery, topped the Fort Worth lime at 5770 feet and was drilling at 5810 feet, while Humble's W. A. Nichols 1 was drilling basal Woodbine at 5185 feet.

Shelby County: Humble Oil & Refining Company's Pickering Lumber Company 1, wildcat in the southeastern part of the county, 9 miles east of Shelbyville, is reported circulating at total depth of 6688 feet. It is reported to have picked up about 60 feet of sand with possible oil showing somewhere in the Travis Peak horizon, but this is still unconfirmed.

Four miles northwest of Timpson, Southport Petroleum Company's R. C. Moore 1 has treated with 3000 gallons of acid with casing perforated at 6405-22 feet, and is still making some water, although it tested an estimated 1,000,000 cubic feet of gas daily. These perforations are opposite the upper Pettit, and it likely will be tested again after a squeeze cement job.

Harrison County: Stanolind Oil & Gas Company and Continental Oil Company's Harris 1, southeast of Woodlawn, is still swabbing from the perforations at 6493-6520 feet, following treatment with 4000 gallons of acid, and is now recovering a small amount of oil in fluid which carries a salty taste. The water may be coming in because of acidization, or it may be formation water, although it had not shown up on previous test.

Angelina County: Humble Oil & Refining Company has abandoned Angelina County Lumber Company 1, in the Wood survey 7 miles southwest of Lufkin, at 7212 feet.

☆

W. W. WELLS, secretary of the product conservation committee of the Petroleum Industry War Council and promotion manager of the industry's campaign against the black market, has resigned to resume business in the advertising and public relations field.

Southwest Texas

Several Wildcats Among Tests Planned in Area

A number of new locations were announced last week, including several wildcats. Humble is testing a wildcat in Zapata County, and oil was reported in Wilson County, but most of the development is confined to routine drilling.

Zapata County: Humble Oil & Refining Company's Juana Y. McDermott 1, wildcat 25 miles north of Roma, has perforated casing in a shallow sand at 2609-18 feet, set tubing and is swabbing. It swabbed dry once, stood for one hour and fluid rose 75 feet, water with some oil. It is still swabbing. The well had drilled to 7004 feet, but found nothing worthy of testing except the shallow sand.

Wilson County: L. D. Ormsby's Williamson Heirs 1, 9 miles northeast of Floresville in the M. Contis survey, has set casing with total depth 5080 feet and will attempt to complete, but oil showed around the surface casing, indicating a leak in the producing string. Operators lost returns while drilling at 5059 feet, then reestablished circulation, but the well attempted to blow out at 5080 feet and casing was set.

Stanolind Oil & Gas Company has located J. E. Watkins 2, 400 feet northwest of Watkins 1, which attracted interest by showing oil and building tanks, but which has not been completed. It was drilled to 5190 feet and casing was set at 5185 feet. A drill stem test at about 5167 feet reportedly flowed 24-gravity oil.

Duval County: M. M. Miller & Sons have staked location for George Herbarger 1, 6000-foot wildcat project 9 miles south of Benavides on a 160-acre lease in the Santos Flores Agua Poquita grant.

Tom Graham's J. T. Dinn 1, 8¼ miles northeast of Bruni, is running electric log with total depth 3500 feet. The well cored about 10 feet of sand in the Government Wells section, which shaled out, and there was a showing of oil reported on the slush pits.

San Patricio County: Henshaw Brothers and Coastal Refineries, Inc.'s Florence B. Haworth 1 will be a new 7000-foot wildcat test 4 miles northeast of Edroy in Sec. 30, Cubbage & Miller subdivision.

Five miles southwest of Edroy, Mikton Oil Company has abandoned its A. H. Masiran 1 after drilling to 6729 feet, showing nothing on electric log.

Humble Oil & Refining Company's Tim Buckley et al 1, Gregory field, is drilling after making a drill stem test at 6017-22 feet which showed a steady blow of gas and recovered a little oil, but which also recovered 2600 feet of salt water.

Stanolind Oil & Gas Company's Welder Ranch 2, wildcat in the Calallen area, is drilling below 7150 feet in shale.

Plymouth Oil Company has taken potential test on its Welder F-1, new produced in the Rooke field. Flowing through a 3/32-inch choke, it made 100.49 barrels of 40.9 gravity oil in 24 hours with tubing pressure 1150 pounds and casing pressure 1500 pounds.

Brooks County: Humble Oil & Refining Company is coring below 7513 feet in its Dan Sullivan 1, interesting wildcat in the area 8 miles southeast

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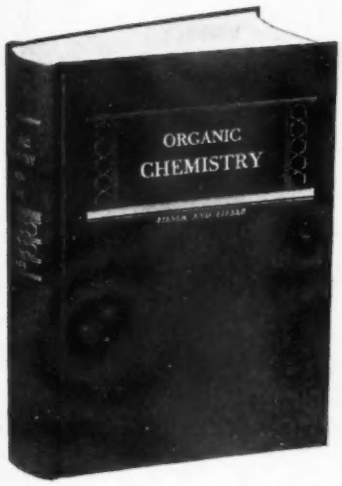

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of Falfurrias, following a drill stem test which recovered more condensate. This test was made at 7496-7503 feet, open at top and ¼-inch choke at botton, and in 20½ minutes it showed maximum working pressure of 97 pounds and recovered 15 gallons of clear, 53-gravity condensate. This well has recovered small amounts of condensate on tests at several points within the past 500 feet or so.

Humble's Sullivan B-1, a wildcat 8 miles southeasterly from the above test, is drilling below 6243 feet in shale.

Sun Oil Company is making location for another wildcat on its leased portion of the Sullivan ranch. The new test, Sullivan 5, will be approximately 8 miles southeast of Falfurrias, in the Loma Blanco Grant 1616 feet north of its No. 2 well on this 15,753- acre lease.

Texas Gulf Coast

Colorado County Given Gas-Distillate Discovery

Colorado County has a new gas-distillate discovery well, and another wildcat in the county has set production casing; Sinclair Prairie Oil Company has opened two new sands in the Daboval field, Wharton County; Strake's deep test at Conroe field is an apparent failure.

Colorado County: Sinclair Prairie's C. G. Glasscock 2, which opens a new field in the Collier Survey, 6 miles north of Rock Island, has completed the potential test, and flowed 120 barrels of 51-gravity condensate daily through a ¼-inch choke with tubing pressure 1500 pounds and casing pressure 1635 pounds. It also made 4,900,000 cubic feet of gas daily. Production is from the Wilcox sand section with casing perforated at 9203-08 feet, 9216-26 feet, and 9274-80 feet, producing from all perforations as a single completion. Depth is 10,518 feet.

Pan American Production Company's R. L. Williams 1, 8 miles west of Eagle Lake, which may open a producing area in Colorado County, has run electric log after drilling to 9250 feet, and is now standing cemented after running 5½-inch casing to 8977 feet for a series of tests in the Wilcox. While drilling, it had picked up showings around 8375 feet. A drill-stem test at 8372-90 feet recovered some clear 42.7-gravity oil, but operator was unable to get successful tests on sands cored below.

Northwest of Garwood, John Mayo & J. A. Gray's R. S. Stephens 1 is drilling out from under 1000 feet of surface casing.

Wharton County: Sinclair Prairie's Stovall 1, east offset to the discovery well in the Daboval field, has opened two new pays, both shallower than the sand from which Amerada Corporation's discovery well produced. The well drilled to 7312 feet to test discovery pay and then perforated casing at 5498-5506 feet to complete, making 127 barrels of oil daily through a 9/64-inch choke with tubing pressure 1025 pounds. Casing was also perforated at 5550-58 feet in a gas sand now being tested for potential. The discovery completed in a 7000-foot sand.

The Texas Company's Bergstrom 1, wildcat 6 miles northwest of Hillje, originally abandoned at 4510 feet, deepened to 5286 feet and then came back up the hole to perforate at 4122-28 feet and has been completed as a small gasser. Potential is estimated at 8,000,000 cubic feet daily, open flow.

Montgomery County: George Strake's Krohn W-1, deep test in the western part of the Conroe field, has reached its contract depth, stopping at 12,020 feet, and is trying to take side-wall cores. Unless the cores show something of more interest than is now known, the well probably will be abandoned. Apparently it ran structurally high in comparison with known control, but sand conditions were poor.

On the east side of the Lake Creek field, Stanolind Oil & Gas Company and Atlatl Royalty Company's McMahan 1 is drilling below 8392 feet in shale.

Chambers County: Humble Oil & Refining Company's Mayes 1, new producer at Smith Point, flowed 752 barrels of 41.8-gravity oil daily through a ¼-inch choke on potential test, with tubing pressure 1560 pounds and gas-oil ratio 912-1. Casing was perforated with 15 shots at 8166-69 feet. Humble has asked for a new-field designation for this well, which is separated by major faulting from Jackson Pastures, the nearest production.

Harris County: The Texas Company's Mrs. Madge Hopkins, which opened a new area near Addicks, although flowing at the rate of only about 3 barrels of oil daily through a ¼-inch choke, is preparing to rig up a pumping unit in an effort to obtain more production. It would be a rather deep installation, since the well is producing with casing

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perforated at 7702-08 feet in a thin sand section.

Sun Oil Company's Swilley 1, wildcat in the Victor Blanco Survey, northeast part of the county, is drilling below 7693 feet in shale and lime.

Humble has started drilling Milo 10, proposed 13,000-foot Wilcox test in the Conroe field, having spudded and set 209 feet of conductor pipe. Tomball is one of the more important Cockfield sand fields.

South Louisiana

Reddell Field Extended by Evangeline Parish Test

South Louisiana operations are showing more activity since the last few weeks of 1944. Several wildcat locations have been announced, and field activity is steady with indications that several will be extended in area.

Evangeline Parish: Continental Oil Company's Pardee Company 5 extends production in the Reddell field, having been completed through casing perforations at 9690-9704 feet, flowing condensate at the rate of 124 barrels daily through a 10/64-inch choke with tubing pressure 3100 pounds and casing sealed. Depth is 9730 feet with the 6-inch casing cemented on bottom. Gravity of condensate is 58 degrees.

St. Landry Parish: Southwestern Oil & Refining Company has taken out a Conservation Department permit for a new wildcat test in western St. Landry Parish about midway between Opelousas and Church Point. Location for Sam Haas Estate 1 will be in 32-6s-3e, 5 miles southwest of Opelousas. It is scheduled to 10,500 feet with Bankhead Drilling Company as contractors.

In the North Cankton field, Sun Oil Company has started testing its E. M. Boagni B-3, but probably will make a squeeze job before the next test. It started flowing after swabbing down 1000 feet, but flowed salt water and oil for a short time and went dead. Depth of the hole is 10,250 feet with 7-inch casing on bottom.

Sun Oil Company's Burleigh-Miller Pool 1, in the Shuteston area, is drilling in hard shale and lime at 7243 feet.

Acadia Parish: Sun Oil Company's Estherwood Townsite Unit 1, Estherwood area, has reached contract depth at 11,057 feet in sand and shale and after running electric log to bottom, is drilling below 11,269 feet in shale.

Continental has abandoned its Mrs. L. D. Thibodeaux, deep wildcat in the Church Point area, after drilling to 11,008 feet. Depth by electric log was placed at 10,995 feet and no showings were reported.

Union Sulphur Company's Medlenka 1, in 11-8s-2w, Iota area, is waiting on cement at 9692 feet after setting 7-inch casing at that point.

In the North Tepetate area, Humble Oil & Refining Company's M. L. Vincent, Jr., is preparing to perforate for a production test above 7830 feet. It was drilled to 8650 feet, set casing to 8648 feet, and has drilled out cement to 7830 feet.

Iberville Parish: Francis A. Callery, of Fort Worth, will drill a 10,000-foot wildcat in the Bayou des Glaise area in 76-8s-8e. The well is on State Lease 323, 1900 feet east of the southwest corner of Sec. 76.

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Wilberts Minerals Corporation C-1, in the Bayou des Glaise area, is drilling below 10,314 feet in hard sandy shale and sand.

Jefferson Davis Parish: Barnsdall Oil Company et al's Joseph Fuselier 2, northeast offset to the discovery well in the West Tepetate field, is preparing to complete after drilling to 9236 feet and setting 7-inch casing on bottom. Operators have not yet indicated whether completion will be in the 8500 or the 9200-foot sand, both of which made good producers in the field's other two wells. The discovery itself was completed in the sand just below 8500 feet, while the second well opened the lower pay.

In the same area, Barnsdall et al are preparing to spud in the Fuselier 3, north offset to the discovery well, while the Miller 3 has completed derrick and is waiting for a rig.

On the southeast flank of the Iowa dome in the western edge of the parish, Union Sulphur Company's B. T. Wait 1 is drilling at 6845 feet in shale.

Stanolind Oil & Gas Company's Tupper 1, South Elton area, is drilling below 3193 feet after being delayed at 3008 feet for repairs.

Beauregard Parish: Two Beauregard Parish field wells are preparing to complete, one in the Mystic area and another at Gordon field. Yegua Corporation's Lutcher-Moore B-1, Mystic area, is preparing to test. Depth is 8250 feet and 5½-inch casing is set at 8243 feet.

Union Oil Company of California's Edgewood Land & Logging Company 5, in the Gordon field, is drilling plugs from 5½-inch casing at 6860 feet. Depth is 6950 feet.

North Louisiana

Wildcats in Franklin and Richland Parishes Planned

Activity continues at the high rate maintained through the close of 1944, and 2 new wildcat locations announced in Franklin and Richland Parishes. A number of wells are being drilled as a direct result of the recent discovery by Sun and Murphy in Richland Parish.

Natchitoches Parish: The California Company & Signal Oil Company's Annie Morrison 1, wildcat in 12-13n-8w, extreme northwestern corner of the parish, is drilling below 4710 feet in shale, heading for its original objective of 5000 feet. There has been no confirmation of recent reports that oil shows had been picked up between 4000 and 4100 feet.

Catahoula Parish: The California Company has started work on its next operation in the Sicily Island area, the name given the new field opened by its Tensas Delta Monaghan Land Company 1, H. C. Eckhardt 1, will be deepened to the Massive sand. The test previously had been abandoned at 5860 feet and hole is being conditioned before drilling. The discovery flowed 40 barrels of distillate and 1,250,000 cubic feet of gas from perforations at 8512-44 feet.

Richland Parish: C. W. Sharp et al are drilling below 3285 feet in Cochran & Franklin 1, 6 miles west of the new Delhi field in the eastern part of the parish. It reported broken sand at 3012-25 feet with no show of oil, apparently the equivalent of the sand from which the Murphy and Sun well flowed 505 barrels of oil daily. Sand in the Glen Rose section topped at 3106 feet also carried salt water and the well likely will be abandoned at contract depth of 3500 feet.

Roy L. Fisher is reported below 3000 feet in his Graham Unit 1, wildcat in the Delhi Townsite.

DeSoto Parish: G. C. Schoonmaker, E. P. Jarvis, and A. Marcell's Anders 1, in 5-11n-14w, an old well worked over which is opening a new gas field for North Louisiana, west of the Spider area, has been completed through perforations at 4868-76 feet, flowing 12,500,000 cubic feet of gas daily on open flow potential with distillate estimated at 5 barrels per million feet of gas.

Red River Parish: The Texas Company's Semp Russ 1, between Coushatta and Gahagan, has completed through perforations at 5000-5020 feet. Last reported gauge was at the rate of 20,000,000 cubic feet of gas daily, open flow, with 1 barrel of distillate per million cubic feet of gas.

Caddo Parish: Phillips Petroleum Company's Moneyham 1, wildcat in 5-18n-16w, near the Texas line, has set casing after drilling to 6512 feet and running electric log. It reported oil showings in both the Pettit and Travis Peak.

Arkansas

Another Deep Test Slated In South El Dorado Field

Another deep test is scheduled for the South El Dorado field, in Union County; new producer added in Village field; testing continues in Arkla Oil Company's Miller County wildcat.

Union County: C. H. Murphy, Jr., has made location for Fee 1, proposed Smackover lime test due to start drilling at once in the old South El Dorado field. The test is to be in the northeast corner of 4-19s-15w, a mile east of the operator's Cates C-1, deep test drilled early in 1941 which was dry in the Smackover lime but which produced for a short time from the Cotton Valley sands. It had been taken to 7820 feet, slightly more than 100 feet into the Smackover lime.

National Associated Petroleum Company's Annie Smith, wildcat in 17-16s-17w, also in Union County, drilled to 4620 feet and is shut down for fuel.

Root Petroleum Company's McRae 1, in 16-16s-18w, was below 6800 feet after having picked up top of the Cotton Valley at 4850 feet.

Columbia County: Magnolia Petroleum Company's Booth-Barron 1, adds a new producer to the Village field, having completed in open hole between casing seat at 7359 feet and total depth of 7363 feet. Initial gauge showed recovery of 70 barrels of pipe line oil in 12 hours through a ¼-inch choke on tubing.

The Atlantic Refining Company's Carrington-Grooves 1, Smackover lime test in the Dorcheat-Macedonia field, is drilling below 5635 feet in shale.

Miller County: Arkla Oil Company's R. T. Dodd 1, in 11-19s-28w, in the southwest corner of the county and state, is swabbing after acidizing through perforations at 6275-85 feet, with no results reported thus far. This well was

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drilled to 6810 feet and has made tests below the point of the present one with no showings considered to be commercial.

Also in southwestern Miller County, Atlantic Refining Company's Montana Realty Company 1 is drilling below 7920 feet in shale. Top of the Cotton Valley was picked up at 7100 feet.

In the Fouke field, The Carter Oil Company's S. Harvey 1 has drilled cement to 3505 feet and is preparing to perforate for completion. It was delayed several weeks by high water.

In the same area Carter is clearing location for O'Brien 1, in 33-16s-26w.

Van Buren County: Lion Oil Refining Company's Griggs 1, wildcat in 23-10n-13w, northern part of the state, was drilling at 3810 feet.

Illinois Basin

Single Discovery Noted In Generally Dull Week

One discovery well was listed as a completion to highlight the week's operations in Illinois. W. J. Lewis et al's Burkhardt 1, SE NE SW 18-5s-9e, wildcat about 5 miles east of Carmi, pumped 214 barrels of oil and a slight amount of water in 24 hours on initial test.

Superior Oil Company's Mussett 8, SE NW NW 12-3s-10e, was completed in the Bridgeport sand at 1851-65 feet for a slight extension of the Albion pool of White County. It pumped 155 barrels of oil and 5 barrels of water in 24 hours. The well is the southwesternmost producer in the area.

In the growing Mattoon pool of Coles County, 11 wells were producing and 3 others neared completion.

Hopes of production in Douglas County along the LaSalle anticline were set back with abandonment of Ohio Oil Company's Shaw 1, SW SW SW 36-16n-6e at 4151 feet. No worth while shows of oil were recovered. The area had been highly recommended by the Illinois Geological Survey.

Wells completed in Illinois exceeded estimates of a year ago due chiefly to the well relaxation spacing order. A total of 1969 wells was completed with initial average of 118 barrels of oil daily. This represented an increase in 9.6 percnet in the number of wells drilled and a crude increase of 13.4 percent. Actual oil producers totaled 1205, while 757 were dry holes. Seven gas wells were completed.

Relaxation of spacing regulations accounted for approximately 230 new wells, of which 160 were sand producers with initial production average of 100 barrels, and 50 lime wells with initial production average of 45 barrels. Twenty wells were dry.

Discoveries for the year totaled 61, of which 24 opened new pools, 26 extended producing areas and 11 were new producing horizons in fields producing from other horizons.

Clay City led the state for completions with 160 oil wells and 29 dry holes. Second was the Albion pool with 57 producers and 15 dry holes, and third was Noble with 56 oil wells and 13 dry holes.

The state averaged approximately 208,200 barrels of oil daily. At the first of the year the daily yield was approximately 216,000 barrels, while at the end it had dropped to about 200,000.

Rocky Mountain Area

Test in South Elk Basin Makes Gas Flow in Dakota

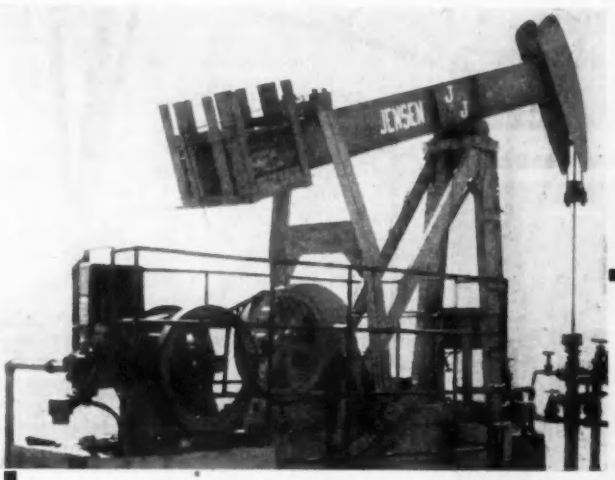
South Elk Basin, Wyoming, test encounters gas flow in Dakota; Big Sand Draw deep test completed.

South Elk Basin: Continental Oil Company's test of South Elk Basin, Park County, Wyoming, Goodstein 1, NE SE SW 20-57n-99w, drilled into the Dakota at 5400 feet and on drill stem test at 5390-5439 feet, open 4¾ minutes, showed an estimated flow of 10,000,000 to 12,000,000 cubic feet of dry sweet gas. The well is approximately 5 miles south of the Elk Basin Tensleep oil field, and gas at this location would serve to augment the depleting gas reserves at Elk Basin, supplying Billings and Bozeman, Montana, and other towns in the vicinity.

Big Sand Draw: Sinclair Wyoming Oil Company has completed its Tensleep discovery well in the Big Sand Draw field, Fremont County, Wyoming, Unit 1 in SW NW NW 14-32n-95w, for an initial production of 804 barrels of oil per day, flowing through a ¾-inch tubing choke. Top of the Tensleep was logged at 7281 feet and the well drilled to a total depth of 7593 feet.

☆

R. C. CHENOWETH, formerly district manager of Oilwell Supply Company's Shreveport district, has accepted a position as manager of Wilson Supply Company's new office in San Antonio.



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Heidelberg Field Likely To Get West Extension

West extension of Heidelberg field probable; closely watched Soso prospect nearing Massive sand section; oil and gas shows reported at Mallalieu offset.

Issaquena County: The California Company's Mississippi Alluvial Farms 1, which recently stimulated lease and royalty trading in the area when oil or gas showings were rumored, is drilling below 6818 feet with no confirmed reports which would indicate commercial showings in the lower part of the hole. There have been two points, one at 3300 feet and another around 5900 feet, where some indications of oil or gas was found in side-wall samples, but not enough to assure production. Location is in the northeast corner of 34-12n-8w, northern part of this Mississippi county.

Jasper County: Midstates Oil Corporation probably will extend Heidelberg field production a location west with June Lightsey 1, in 19-1n-13e, which topped sand at 4990 feet and set casing after coring to 5031 feet in sand. Pipe was landed on bottom and operators are preparing to perforate and test.

Gulf Refining Company's Edwards-Bailey Unit 1, wildcat in 27-10n-13w, on the Soso prospect, is drilling below 7196 feet in shale with no further shows found since making the drill stem test at 6650 feet that showed some gas and distillate. This wildcat is on a well-thought-of prospect. The showings found were in the Eutaw horizon and the well should reach the Massive soon.

Claiborne County: Danciger Oil & Refining Company's Claude Taylor 1, wildcat in the St. Elmo area, 51-13n-3e, is coring below 4250 feet, with top of Wilcox reported at 3520 feet. To this point it is reported checking favorably, although it is scheduled to the Lower Cretaceous.

Lincoln County: The California Company's J. S. Nordan 1, west offset to the discovery well in the Mallalieu field, is drilling below 11,015 feet after being reported as dry in the discovery horizon on indication of electric log run to 10,662 feet. A 65-foot sand body with oil and gas shows has since been reported, but not confirmed.

Warren County: Humble Oil & Refining Company's A. Evans 1, wildcat in the area 9 miles southeast of Columbia, is drilling below 9135 feet, believed to be in or near the Massive sand section. This wildcat is 9 miles northwest of Gulf Refining Company's discovery in the Baxterville field and attracted interest since getting showings at 8957-60 feet which prompted making a drill stem test that recovered only gas-cut mud when the seat slipped. No further test was attempted.

Gulf Refining Company's R. H. Bradshaw 3, in 29-3n-17w, is drilling below 7900 feet in shale, near contract depth of 8500 feet.

Jefferson County: Humble Oil & Refining Company has started clearing location and building roads for its M. R. Smith 1, wildcat in the Anna area where the company holds a lease block in the west central portion of the county.

Forrest County: Harry Morgan & Dilworth Hager's United States of America 1, deep wildcat in the southern part of the state, has been abandoned at 8549 feet after electric log and 18 side-wall cores failed to show oil or gas. Top of the Massive was picked up at 8350 feet.

Florida

After having been shut down for several weeks, Humble Oil & Refining Company has resumed drilling in its State 1, Dade County, and was below 9779 feet in anhydrite. In Gulf County, The Pure Oil Company is still moving in equipment for its C. C. Hopkins 2. O. D. Robinson's State 1, wildcat in Monroe County is preparing to spud after having set up the rig, and Humble's Carlton Estate 1 in Highlands County, is also preparing to start drilling.

Alabama

Bunte Oil & Gas Company et al's S. P. Chapman 1, wildcat in 30-9n-3e, Clarke County, is drilling at 4860 feet in hard shale.

In Wilcox County, Southern Natural Gas Company's Fannie Stokes 1, another of the state's 3 actively drilling wildcats, is below 2130 feet in shale. J. T. Parks' Hobson 1, in Washington County, is still shut down for repairs at 1015 feet in shale.

Pyzel Retires

Shell Union Oil Corporation, New York, announces retirement of Daniel Pyzel, vice president in charge of research, and a director. He is a veteran of 47 years experience in the oil business and is well known in the petroleum industry for his interest and active participation in many of the new chemical developments which that industry has adopted during the past 30 years. He has been directly responsible for several of Shell's technical advances in this field.

The vacancy created on the board of directors by Pyzel's retirement has been filled by Gayer G. Dominick, senior partner of the investment banking firm of Dominick and Dominick.

☆

L. W. LOWE, former scout and landman for Empire Gas & Fuel Company and one of the organizers of the National Association of Oil Scouts and Landmen's Association, died December 24 at Dallas.

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Michigan

Bay County Dundee Test Expected to Be Discovery

Bay County test looms as discovery; commercial producer expected in Coldwater field; interest increases in Mecosta County test.

Walton and Stewarts' Agnor 1, NE NE NW 27-18n-3e, Gibson Township, Bay County, logged Dundee at 2925 feet and shut down to test at 2937 feet with 8 bailers of oil after the well stood 10 hours. Casing will be set and cemented before additional tests.

The Gibson outpost is 5 miles southwest of the North Adams field, Arenac County, and 9 miles northwest of Shell Oil Company's 1944 discovery in Fraser Township, Bay County.

Also in Bay County Shell has moved rotary off the Augustyniak 1, SW SE NW 2-16n-4e, south offset to the Fraser-Pinconning discovery well, after a drill stem test at 3775-90 feet showed oil, gas and water in the Tuscola Monroe. The test may be drilled deeper later. The discovery produced in the Dundee at 2900 feet but both north and south offsets were dry in that horizon.

Isabella County: Sohio Oil Company's Coe 1, N½ NW SW 33-16n-6w, Coldwater field, logged Dundee at 3745 feet to place it 50 feet lower than the discovery ½ mile north, but it is expected to produce commercially. Pay was drilled at 3749-51 feet with water at 3757-59 feet. It filled up and flowed 60 barrels of oil after standing 2 days at 3751 feet before deepening into water. It will be plugged back and acidized.

Mecosta County: Wagenaar and Fisher-McCalls' Lane 1, NE NW NW 3-14n-10w, wildcat 6 miles east of the Goodwell pool, logged Dundee at 3410-15 feet to place it up on structure and immediately boost interest.

Nelson K. Moody, Sinclair Marketing Head, Succumbs

Nelson K. Moody, 67, president of Sinclair Prairie Oil Marketing Company and Sinclair Prairie Crude Oil Purchasing Company, died in Tulsa, December 30. Born at Titusville, Pennsylvania, he became associated with The Carter Oil Company shortly after the firm was organized and in 1906 was sent to Roumania, where he spent three years in charge of Standard Oil Company operations.

Upon his return he was named a vice president of Prairie Oil & Gas Company and later became president. When Prairie was absorbed by Sinclair Oil Company in 1932 he was elected president of the concern's combined crude oil and marketing subsidiaries and moved to Tulsa. He was active in Chamber of Commerce work and oil organizations.

☆

WAITE PHILLIPS, Tulsa oil man and philanthropist, has established a $100,000 trust fund to be known as the Carver Memorial Fund to be used for the general welfare of Negroes in Oklahoma. Co-trustees of the fund include Johnson D. Hill, Ralph Talbot, H. B. Dowell, Harvey A. Heller, W. G. Skelly, Harry Clarke and W. K. Warren.

U. S. Exploratory Completions

CALIFORNIA WILDCATS

Kern County—Failure: The Superior Oil Co.'s Midway-Premier, se nw 15-29-21, Cymric area, abnd 2174 ft.

Rothschild Oil Co.'s McDevitt 1, sw sw 24-25-27, Jasmine area, Vedder 2028 ft, Granite 2274 ft, abnd 2325 ft.

General Pet. Corp.'s Schaller 1, se se 10-28-28, Round Mountain area, Vedder 2726 ft, abnd 2750 ft.

Los Angeles—Failure: Rishop-Hilo Lapworth 1, 4-2-11, bailed dry, abnd 4248 ft.

COLORADO WILDCAT

Moffatt County—Field Extension: Mtn. Fuel Supply Co.'s Stewart 2, se se ne 32-12n-97w, Powder Wash field extension, 1505 bopd from sand in Wasatch 4190-4216 ft, td 5577 ft.

FLORIDA WILDCAT

Gulf County—Failure: The Pure Oil Co.'s C. C. Hopkins 1, cent sw ne 21-6s-9e, abnd 8708 ft.

GEORGIA WILDCAT

Wayne County—Failure: The California Co.'s Brunswick Plantation 1, 625 ft fr sl & 2499 ft fr wl Land Lot 7, abnd 4626 ft.

ILLINOIS WILDCATS

Clay County—Discovery: Wisconsin O&G et al's Murvin 1, ne sw ne 22-5n-7e, flow 156 bbls oil day, Cyp. 2508-17 ft, td 2517 ft.

Clinton County—Failure: Frank Strickland's Hoake 1, se se ne 32-2n-3w, abnd 2602 ft.

Franklin County — Discovery: Deep Rock's Kirk et al 1, ne se se 15-7s-4e, flow 110 bbls oil day, Aux Vases 3113-41 ft, td 3152 ft.

Lawrence County—Failure: Ashland O&R et

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al's Cunningham Est. 1, se sw nw 11-2n-13w, abnd 2633 ft.

Madison County — Failures: Magnolia's Plocker 1, ne sw nw 10-3n-5w, abnd 2897 ft.

Sohio's Imbe 2, se se se 1-4n-7w, abnd 1761 ft.

Richland County — Discovery: Texas Co.'s Wright 1, ne sw nw 24-4n-10e, flow 416 bbls oil day, McCl 3080-91 ft, td 3094 ft.

Saline County—Failure: C. E. Brehm's Webb 1, se sw se 28-8s-6e, abnd 3062 ft.

Wayne County—Failure: Sinclair Wyoming's Leach 1, sw sw nw 36-2s-5e, abnd 3321 ft.

White County—Failures: Great Lakes Carbon's Calvert 1, se sw ne 5-7s-10e, abnd 3033 ft.

Great Lakes Carbon's Zimmerman 1, se se sw 8-7s-10e, abnd 3030 ft.

Great Lakes Carbon's Stewart 1, se sw se 18-7s-10e, abnd 3082 ft.

INDIANA WILDCAT

Warrick County — Failure: Sunlight Coal's Hart 1, se se nw 27-5s-8w, abnd 1913 ft.

KANSAS WILDCATS

Butler County—Failure: J. E. Morris et al's Cowlsch 1, se sw nw 3-26s-6e, Miss 2736 ft, abnd 2752 ft.

Cowley County—Failure: Texas Co.'s Ott 1, swc 8-33s-6e, Arb 3519 ft, abnd 3579 ft.

Ellis County—Discovery: Brewson Drlg. et al's Schmeidder 1, nwc se 28-12s-17w, pot flow 88 bbls oil day, perf 36 shots 3642-36 ft, Simp 3614 ft, td 3647 ft.

Ellis County—Failure: Iron Drlg. Co.'s Pfannenstell 1, nwc ne 2-15s-18w, Arb 3632 ft, abnd 3640 ft.

Marion County—Failure: Weber Dental Co.'s Voth 1, nwc se 32-20s-1e, Lans 2320 ft, abnd 3565 ft.

McPherson County—Failures: Eldorado Refg. Co.'s Kingsley 1, swc ne 34-17s-5w, abnd 3681 ft.

Texas Co.'s Hedlund 1, sw nw nw 26-18s-3w, Miss 3122 ft, abnd 3775 ft.

J. C. Jansen et al's Robertson 1, swc nw 21-19s-2w, Lans 2351 ft, abnd 2981 ft.

KENTUCKY WILDCATS

Butler County — Failure: M. J. Brimm's Marsh 1, 10-I-34, abnd 908 ft.

Grayson County—Failure: Rock Island Oil's Durbin 1, 18-J-38, abnd 125 ft.

Henderson County—Failures: Ashland O&R's Royster 1, 11-O-23, abnd 2746 ft.

Sinclair Prairie's Whitmore 1, 25-O-23, abnd 2737 ft.

Henderson County — Discovery: Sinclair Prairie's Humphrey 2, 6-P-21, pump & flow 250 bbls oil day, O'Hara 2552-58 ft, td 2797 ft.

McLean County—Failures: Miller & Shiarella's Hayden 1, 3-M-29, abnd 2203 ft.

Sohio's Smith 1, 24-N-27, abnd 2562 ft.

Union County—Discovery: Farmer & Chenault's Slaton 1, 17-M-19, pump 35 bbls oil day, Hds 1350-61 ft, td 1361 ft.

Webster County—Failure: Sinclair Prairie's Withers 1, 8-M-24, abnd 2828 ft.

NORTH LOUISIANA WILDCATS

Bossier Parish — Failure: H. H. Temple's Pirkle 1, 2066.7 ft fr wl & 660 ft fr sl 31-19n-12w, abnd 1864 ft.

DeSoto Parish—Gas Discovery: G. C. Schoonmaker, E. P. Jarvis & A. Marcell's Anders 1, cent sw ne 5-11n-14w (OWWO), perf 4868-76 ft, flow 12,500,000 cu ft dry gas, open flow 5 bbls dist per mil, otd 6327 ft.

Franklin Parish—Failure: C. L. Smith's J. B. Ely 1, se se se 25-13n-7e, abnd 6770 ft.

Red River Parish—Failure: Magnolia's J. C. Pickett 1, cent se se 11-14n-10w, no shows, abnd 3994 ft.

Webster Parish—Failure: Phillips' Docia 1, 660 ft s & 622 ft w of nec ne nw 18-22n-9w, top Bodcaw 8738 ft, abnd 8753 ft.

SOUTH LOUISIANA WILDCATS

Acadia Parish—Egan Field Extension: Sun's Mrs. C. H. Button 1, 3694 ft s & 795 ft w of nec 1-10s-2w, 4000 ft sw of production, perf 10,805-824 ft, flow 85 bbls 50-gr cond day, 3/16-in choke, td 11,000 ft.

Terrebonne Parish — Gas Field Discovery: Union Oil Co. of Calif.'s Gaidry 1, e of Houma, se cor 22-17s-17e, perf 10,290-298 ft, flow gas, small amount cond, ⅛-in choke, td 12,618 ft.

MICHIGAN WILDCATS

Clare County—Failure: Sun's McClure 1, se ne se 22-20n-3w, abnd 4142 ft.

Genesee County—Failure: H. H. Heinig's McCarty 1, se se sw 11-9n-8e, Berea sand, abnd 1555 ft.

Mecosta County—Failure: Smith Pet. Co.'s Ream 1, sw ne se 29-14n-8w, Brown lime, abnd 1200 ft.

Midland County—Failure: Daily Crude Oil Co.'s Nunn 1, w½ se nw 7-16n-2w, Dundee 3764 ft, abnd 3966 ft.

St. Clair County — Failure: Mueller Brass Co.'s Van Antwerp 1, ne se nw 9-7n-17e, abnd 4948 ft.

Allegan County—Failure: Harris Oil Company's Berns 1, se se nw 19-4n-13w, Traverse lime, abnd 1650 ft.

Kent County—Failure: Oil Producers, Inc.'s Raymer 1, sw sw sw 14-5n-11w, Traverse, abnd 2290 ft.

Montcalm County—Failures: Ohio Oil Co.'s Sanborn 1, se ne ne 7-12n-8w, Dundee 3448 ft, Monroe 3510 ft, so & w 3553-58 ft, abnd 3597 ft.

Southwest Development Co.'s Noll 1, ne ne se 31-10n-5w, Dundee 3126 ft, abnd 3160 ft.

Montmorency County—Failure: Ralph McLellan's Miller 1, sw sw nw 10-30n-3e, abnd 2400 ft.

Muskegon County—Failure: Jacob Bolema's Medendorp 1, se se nw 24-11n-16w, Traverse, abnd 1865 ft.

Sanilac County—Failure: J. W. Spencer's Swazy 1, nw nw sw 22-12n-16e, abnd 448 ft.

W. J. Morris' Golubinski 1, se ne ne 27-8n-16e, abnd 1040 ft.

MISSISSIPPI WILDCATS

Jefferson Davis County—Oil Discovery: Gulf Ref. Co.'s D. L. Mullins 1, cent nw ne 34-9n-19w, 2½ mi sw Gwinville field, Eutaw 7750 ft, Tuscaloosa 8160 ft, Marine 8905 ft, perf 9224-34 ft, flow 840 bbls oil 24 hours, ¼-in choke, tp 2000 lbs, gor 1860-1, td 9433 ft.

Jones County—Failure: Sinclair Wyoming's J. F. Scarborough 1, cent nw ne 35-7n-11w, Massive Tuscaloosa 8335 ft, abnd 8515 ft.

Lamar County — Failure: Shell's Hibernia Bank & Trust Co. 1, 330 ft fr nl & 880 ft fr wl 14-2n-16w, no shows, abnd 9565 ft.

OKLAHOMA WILDCATS

Beckham County—Failure: Phillips' Nanee 1, sw se nw 8-7n-25w, abnd 2291 ft.

Creek County—Failure: Creekmore et al's Stone 1, se nw se 33-18n-9e, Miss 3248 ft, abnd 3296 ft.

Garvin County — Discovery: Skelly et al's Rakestraw 1, se sw se 4-4n-3e, pot flow 280 bbls oil day, perf 30 shots 2490-2500 Penn sd, cp 160 lbs, tp 151 lbs, td 3401 ft.

Grady County—Failure: Bridwell Oil's Haviland 1, nw nw se 33-6s-6w, abnd 2183 ft.

Hughes County—Failure: McMillan's Wells 1, se sw se 25-7n-8e, Crom 3905 ft, abnd 3937 ft.

Lincoln County — Failure: Wafford et al's State 1, ne ne 16-15n-6e, Lay 2218 ft, abnd 3071 ft.

Noble County — Failure: Mid-Continent et al's Robertson 1, nw se ne 30-24n-1w, abnd 4511 ft.

WEST TEXAS WILDCATS

Crockett County — Failure: Watchorn O&G Co.'s Thompson 2, 330 ft out sec I&GN Ry. 74, blk 1, abnd 1177 ft.

Tom Green County—Failure: The Texas Co.'s Garmon 1, 1986 ft snl and 660 ft ewl S.P. Ry. sec 85, Dist. 11, elev 1836 ft, top Ellenburger 4975 ft, abnd 5504 ft.

Glasscock County — Failure: Richfield Oil Corp.'s Blalock 1, c sw ne T&P Ry. 7, blk 35, T-3-S, elev 2540 ft, anhydrite 1310 ft, Yates 2000 ft, lime 3298 ft, abnd 4125 ft.

Lamb County—Oil Discovery: Humble's J. A. Jackson 1, c ne nw sec 119, blk A, R. M. Thomson sur, 3 mi ne Anton; 13 mi n by e of Smyer pool, elev 3461 ft, base Permian 6800 ft, Mississippi 6800-15 ft, Pre-Cambrian 6815 ft, granite 7185 ft, pump 223 bbls 29-gr, plus 111 bbls bs&w, acid 15,000 gals in Clear Fork broken saturation 5360-6050 ft, td 7191 ft, pb to 6050 ft.

Lynn County—Failure: Phillips Pet. Co.'s Bartley 1-a, 633 ft snl and 673 ft ewl Sec 1372, E.L. Ry. Sur, Blk 1, elev 2981 ft, anhydrite 1615 ft, Yates 2110 ft, top solid lime 3290 ft, Ellenburger 9352-9860 ft, granite 9906 ft, abnd 9909 ft.

Mitchell County—Failure: Humble's Keel 1, c sw se T&P Ry. 22, blk 27, elev 2156 ft, abnd in Ellenburger 7875 ft.

Motley County—Failure: Humble's Matador Land & Cattle Co. 2-B, c nw nw sec 44, blk M, Matador Cattle Co. sur, elev 2892 ft, abnd 6722 ft.

Pecos County—Failure: Southern Union Gas Co.'s Monroe 1, 330 ft out sec T.M. Ry. sec 10, blk 193, abnd 2216 ft.

Terry County—Failure: DeKalb Agricultural Assn's Jenkins 1, c ne ne sec 29, blk D, J. H. Gibson sur, elev 3417 ft, anhydrite 2420 ft, Yates frosted grains 3460 ft, brown lime 4540 ft, abnd 5797 ft.

WEST TEXAS NEW PAY COMPLETION

Andrews County—Fullerton Field Shallow Oil Discovery: Magnolia's Ralph 3-11, 801 ft out sec PSL sec 11, blk A-37, offsetting 7100-ft Clear Fork production, elev 3384 ft, anhydrite 1670 ft, salt 1730 ft, Yates 2910 ft, pump 28 bbls 41-gr, shot 200 qts nitro 3050-3150 ft.

SOUTHWEST TEXAS WILDCATS

Duval County—Failure: J. W. Gorman & McDermott's J. F. Welder 1, 6 mi ne of Freer, 2310 ft fr el & 2935.3 ft fr sl sect 211, abnd 2871 ft.

Webb County—Failure: R. F. Schoolfield's Killam-Bruni 1, blk 2, Brown S/D Albercas Grt, 8 mi sw of Bruni, abnd 2760 ft.

TEXAS GULF COAST WILDCATS

Colorado County — Gas-Condensate Discovery: Sinclair Prairie's C. G. Glasscock 2, 4500 ft e of wl & 2500 ft s of nl of Collier sur, 6 mi n Rock Island, perf 9203-26 ft and 9274-80 ft, flow 120 bbls condensate and 4,900,000 cu ft gas day, ¼-in choke, td 10,518 ft.

Harris County — Failure: Glenn McCarthy's Edward E. Lemm 1, 330 ft fr nw & sw ls of Wm. Lemm sur, 1½ mi s of Spring discov well, abnd 6357 ft.

Wharton County—Failure: H. M. Amsler's Mrs. M. L. Heard 1, 660 ft fr n & s ls & 660 ft fr el of 80.7-ac lse, T. J. Winston sur, s of Louise, abnd 6522 ft.

LOWER TEXAS GULF COAST WILDCATS

Calhoun County — Failure: Lewis Lawlor's Frank Kebela 1, Valentine Garcia sur, 467 ft fr se & sw lines of 80-ac lse, 6 mi n Port Lavaca, abnd 6372 ft.

DeWitt County—Failure: Arkansas Fuel Oil Co.'s Ernest Richter 1, Geo. W. Brooks sur 4 mi sw of Clinton, 1600 ft fr wl of 460-ac lse & 3000 ft s of nl of sur, abnd 9015 ft.

Jim Wells County—Failure: Naylor Oil Co.'s Jno. W. Bird 1, Los Presnos de Abajo Grt, 330 ft fr el & 1968 ft fr sl of 425-ac lse, abnd 5494 ft.

Victoria County—Failure: Catahoula Oil & Gas Co.'s Etta Terrell 1, Ed McDonough sur, 12 mi sw Victoria, 330 ft fr ne & nw lines 1000-ac lse, abnd 5515 ft.

EAST TEXAS WILDCAT

Navarro County—Failure: J. M. Russell et al's R. M. Hudnall 1, 1975 ft ne of sw and 2425 ft fr se lines of Joseph Mayor sur, abnd 1070 ft.

NORTH TEXAS WILDCATS

Clay County — Oil Discovery: Anderson-Prichard Oil Corp.'s Wood 1-A, 990 ft out nec sec 12, MEP&P Ry. Sur A-339, 4 mi sw Petrolia shallow gas, elev 968 ft, top KMA lime 4817 ft, Bend 5879 ft, Simpson 6157 ft, Viola 6160 ft, Ellenburger 6506 ft, flow 205 bbls 41.6-gr oil 13 hrs, ⅝-in natural from Bend perf 5935-50 ft, td 6672 ft.

Cooke County—Failures: Benson Bros.'Fleitman-Dangelmeyer 1, 705 ft nsl and 232 ft ewl lot 6, Thos. Scott sur A-900, abnd 2001 ft.

Maguire Industries, Inc.'s Hoenig 2, 480 ft fr sw and 275 ft fr se lines of John C. Morgan sur A-151, abnd 1430 ft.

Phillips Pet. Co.'s B. English-Eppie 2, 2500 ft nsl and 330 ft wel of J. F. Davidson sur A-336, abnd 2439 ft.

Wichita County—Failure: Akin-Dimock et al's Honaker 1, 660 ft ewl and 850 ft nsl of s-160-ac in se part of Jas. Cole sur A-37, abnd 1932 ft.

Wise County—Failure: R. B. Campbell and S. B. Waters' F. F. Kaker-Gulf 1, 3000 ft n and 502 ft e of m/s/sw corner Rebecca Coleman sur A-155, elev 737 ft, abnd 4208 ft.

NORTH TEXAS NEW PAY TESTS

Jack County—Roxana-Williams: Hanlon & Buchanan, Inc.'s, Johnson Bros. 1-H, 467 ft out sec sw¼ sec 2, BS&F Ry. Sur A-2390, elev 1123 ft, Marble Falls 4488 ft, Barnett shale 5030 ft, abnd 5445 ft.

Archer County — Shallow District Canyon Failure: L. T. Burns et al's Powell 5-A, 400 ft snl and 300 ft wel blk 116, John W. Harris sur, elev 1011 ft, abnd 2750 ft.

United States Wildcat Starts

CALIFORNIA

Kern County: General Pet. Corp.'s Sunset 33-B, nw se 33-12-24, lcn.

Los Angeles County: Cinnabar Drlg. & Expl. Co.'s 1, se 1-3-11, lcn.

So. Calif. Pet. Co.'s 1, 30-2-6, lcn.

ILLINOIS

Clay County: Texas Co.'s Jones 1, se se nw 18-5n-5e, dr.

Edwards County: Philips' Saxe 1, ne sw se 17-1s-10e, lcn.

Effingham County: Magnolia's Yagow 1, nw nw sw 9-7n-4e, lcn.

Franklin County: Nash Redwine's Franklin County Mining Co. 1, nw ne se 11-7s-4e, lcn.

Jasper County: Myers & Newton's Miller 1, se sw ne 32-7n-10e, dr.

Madison County: T. T. Eason's R. Frey 1, nw se nw 23-3n-6w, dr.

Richland County: C. E. Brehm's Brehm 1, nw ne se 11-2n-9e, lcn.

Washington County: Goldschmidt et al's Frank 1, nw nw se 7-1s-3w, lcn.

Bennett Bros.' Baldwin 1, se sw ne 19-1s-3w, dr.

Wayne County: Skelly's Hoover 1, ne nw sw 1-1n-5e, lcn.

INDIANA

Vandenburg County: Bristol Hackbush's N. Loell-French Comm. 1, nw nw nw 29-5s-11w, lcn.

KANSAS

Cowley County: Continental Oil's Speer 1, nw se nw 31-33s-6e, lcn.

Ellsworth County: Mid-States & Ingling's

Kasperek 1, sw sw nw 13-18s-6w, lcn.
Graham County: Iron Drilling Co.'s Everest 1, se ne 32-8s-21w, lcn.
Reno County: Sterling Drilling Co.'s Osenbaugh 1, sw 34-22s-8w, lcn.
Russell County: Kiowa Drilling Co. et al's Dewald 1, ne sw sw 31-15s-15w, lcn.
Saline County: Westgate Greenland's Shank 1, nec 19-13s-3w, lcn.

KENTUCKY

Hopkins County: Deep Rock's Mooreland Farms 1, 2-L-26, dr.
McLean County: Sohio Pet. Corp.'s Ferguson 1, 15-L-29, lcn.

NORTH LOUISIANA

Franklin Parish: American Liberty Oil Co.'s J. E. Holt 1, nwc se of ne 11-16n-8e, Tuscaloosa test dr below surf pipe.
Richland Parish: Milton J. Houston & Rogers Lacy's Duckworth Estate 1, 430 ft fr sl & 330 ft fr wl ne ¼ 18-17n-10e, spudding on Tuscaloosa test.

NORTH LOUISIANA

Iberville Parish: Francis A. Callery's State-Bayou des Glaise 1, 1900 ft e of sw cor sect 76 on projected sl of sect, sect 76-8s-8e, lcn for 10,000-ft test.
Rapides Parish: Louisiana Land & Exploration Co.'s J. A. Bently A-2, cent ne nw 26-5n-5w, lcn for Wilcox test.

MICHIGAN

Allegan County: Harris Oil Co.'s Dendel 1, nw nw se 27-3n-13w, rig.
Allegan County: Fox Hole Oil Co.'s Harmsen 1, nw ne se 29-4n-14w, lcn.
Midland County: Sun Oil Co.'s Patterson 1, sw sw nw 35-15n-2e, rig.
Ionia County: Louis Rose's Dickinson 1, ne se se 22-8n-6w, lcn.
Kent County: Michigan Consolidated's Phillips 1, nw nw se 3-10n-10w, rig.
Lapeer County: G. E. Dodge's Woodward 1, sw nw ne 8-8n-9e, lcn.
Oceana County: Skelly's Vanderlest 1, sw sw sw 28-14n-15w, dr.

MISSISSIPPI

Warren County: National Associated Petroleum Co.'s Jeff Davis Heirs 1, 2460 ft s & 990 ft w of sec 23 accretion to 23-14n-1e, lcn.

MISSOURI

Franklin County: Powers' Fisher 1, 4-42n-19w, lcn.
Stoddard County: G. E. Krider et al's Rehms 1, se se ne 32-28n-11e, dr.

MONTANA

Glacier County: Texas Co.'s Tribal 1 (283), sw sw sw 23-37n-6w, North Headlight Butte, lcn.

NEW MEXICO

Lea County: Gulf Oil Corp.'s E. T. Paddock 1, c sw se 1-22s-37e, mim for 6500-ft Clear Fork test.
Neville G. Penrose, Inc.'s Hinton 2, c sw se 12-22s-37e, rig for Clear Fork test.

NEW MEXICO NEW PAY TEST

Lea County—Penrose Field Ellenburger Test: Neville G. Penrose, Inc.'s Fee-Federal 1, c se nw 9-22s-37e, lcn 12,000-ft test.

OKLAHOMA

Grady County: Phillips' Duke 1, sw sw se 28-5n-8w, lcn.
Jefferson County: Bridwell Oil's Seay 1, sw ne 20-6s-5w, lcn.
Kay County: Mac Operating Co.'s Thain 1, nw sw se 27-28n-1e, lcn.
Osage County: Sinclair Prairie's Osage 1, ne ne se 31-25n-6e, dr 517 ft.
Seminole County: Pure's Alliance Inc. 1, ne ne ne 9-5n-7ecm, lcn.

WEST TEXAS

Crane County: Gulf Oil Corp.'s U. Henderson 1-E, 660 ft snl and 1980 ft wel PSL sec 25, blk B-27, 2⅞ mi nw nearest Sand Hills production, lcn 7500-ft Ellenburger test.
Gulf Oil Corp.'s A. H. Scott 1-A-E, 660 ft nsl and 680 ft ewl PSL sec 20, blk B-20 1¾ mi ne West Sand Hills pool, lcn 8000-ft Ellenburger test.
Irion County: Shell Oil Co.'s Tankersley 2, c sw sw GC&SF Ry. sec 10, 1800 ft ne of its 8357-foot Ellenburger failure, Ellenburger test.

WEST TEXAS NEW PAY TEST

Winkler County: Hendrick Field Ellenburger Test: Stanolind and Westbrook-Thompson Holding Corp.'s Hendrick 35-M-T-88, c sw se PSL sec 33, blk B-26, lcn 11,000-ft Ellenburger test.

SOUTHWEST TEXAS

Brooks County: Humble Oil & Refining Company's B. A. Skipper 1, La Encantada Grant, Rachal Block tract 1, 660 ft fr n & e lines of tract 1, 1 mi nw of Rachal, lcn for 9000-ft test.
Duval County: Hiawatha Oil & Gas Co.'s Raul Oliveria 1, Andres Garcia sur, 3 mi se of Benavides, 466 ft fr s & e lines of 500-ac lse, lcn for 6200-ft test.
Zapata County: Humble Oil & Refining Company's Paula V. de Garcia 1, 9 mi sw of Randado, 660 ft nw & 1980 ft sw of n cor sur 40, well in GC&SF sur 281, lcn for 4000-ft test.

NORTH TEXAS

Archer County: F. L. Harvey et al's Duckworth 1-B, 2500 ft ewl and 750 ft snl of blk 11, Harris subdvn, lcn 1475-ft rotary test.
Baylor County: Akin-Dimock & Bridwell Oil Co.'s T. W. Farr 1, 660 ft nsl and 900 ft ewl of s½ T&NO Ry. sec 288, lcn 3200-ft Palo Pinto test.
Cooke County: Kerlyn Oil Co.'s H. C. Hay 1, 1900 ft s and 580 ft e of sec of S. D. Brown sur A-95, but in Amos C. C. Bailey sur A-44, dr 2440 ft.
Grayson County: Lee Andree and F. Parsons' Whiting Est. 1-A, 990 ft snl and 661 ft ewl 50-ac lse, Daniel Dugan sur 327, A-3, mim 3500-ft test.
Jack County: A. R. Dillard et al's J. H. Marley 1, 330 ft out sec ne sec 4, W.C. Ry. sur A-984, lcn 3800-ft Strawn test.

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HEWLETT A. RUSSELL, former geologist with Standard Oil Company of Texas and recently associated with Ben Rankin, North Texas producer and consulting geologist, has opened an office at Graham, Texas.

Profit-Sharing Plan

Halliburton Oil Well Cementing Company, Duncan, Oklahoma, announced a profit-sharing plan for employes has been approved by company stockholders which will amount to approximately $500,000 annually. The plan provides for payments to employes in event of death, disability or retirement.

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C. O. DAVIS has been transferred from the Cumberland, Oklahoma, division by Pure Transportation Company to the Michigan division as assistant superintendent. He succeeds William Donaldson, deceased.

G. F. GEPHART has been appointed comptroller of Standard Oil Company of California. This position has been held by B. W. Letcher, who is also a vice president and the secretary of the company.

The Oil Weekly's TRADING POST

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POWER ROTARY RIG FOR SALE
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DRAW-WORKS is roller bearing, brakes are 36" diameter and 6" wide. FRICTION CLUTCH is in drum. MOTOR is 6-cylinder heavy duty truck (Dodge 2-ton) motor with 5-Speed-Forward TRANSMISSION. Motor is 1942 model purchased new this year, has combination gas or gasoline carburetor. DERRICK MAST is 10" pipe with built-in CROWN BLOCK, 64' high. TRAVELING BLOCK has 3-shieves and 5' SPRING HOOK. Rig has Boykin Rotary Table and Oilwell SWIVEL. MUD PUMP is Gardner Denver 7¼ x 10, unitized on heavy steel skids, with V-Belt Drive to heavy-duty 4-cylinder CLIMAX engine. KELLY is 4½" square, about 34' long, equipped with DRIVE BUSHINGS for rotary table. PRICE for all above items . . . $13,500.00 at present location, Northwest Palo Pinto County, Texas. A. W. ADKISSON, 2018 W. T. Waggoner Bldg., Ft. Worth 2, Texas.

■ **FOR SALE: Load lugger in perfect condition complete with ten 1½ cu. yd. trays and mounted on 1939 Ford truck with new motor and 7:00/20 dual tires on rear. Will sell with or without truck. For information call or write Refinery Service Company, 3003 Navigation Blvd., Houston, Texas; Phone Fairfax 6358.**

■ WORLD'S LONGEST Steer Horns for Sale. Polished and mounted. Free Photo. Address: L. Bertillion, Mineola, Texas.

■ FOR SALE: Oil Well 320 Triplex Steam Slush Pump with 12" suction hose and strainer. Good as new. Also unitized coring unit complete with 11,000' of ⅝" line. First class condition. Equipment located at Donaldsonville, La. For particulars call or write McDaniel & Beecherl Drilling Co., 210 Constr. Bldg., Dallas, Texas.

LEASES, DRILLING ACREAGE, ETC.

■ Competent Buyer Leases, Royalties (20 years experience, largely one company) wants buying orders North Louisiana and Mississippi. Have pleased several major companies. Address: Chas. G. Bennett, Monroe, Louisiana.

NOTICES

■ CAPITAL SEEKERS—Interested in raising $25,000 or more for a postwar project should write to AMSTER LEONARD, Fox Bldg., Detroit 1, Mich.

HELP WANTED

■ **Chemical Engineer to engage in research and development work with major oil company along crude oil producing lines. Would include some field work. Recent gradates of interest. Position offers good future. Give full personal data, experience, and salary desired. Our employees know of this advertisement. All answers strictly confidential. Address: Box 30, c/o The Oil Weekly, Houston, Texas.**

■ **Research Geophysicist with several years experience preferably including field work and laboratory work, to engage in research geophysics with major oil company. In charge of work including evaluation of new ideas and experimental development of same. Position offers good future. Give full personal data, experience and salary desired. Our employees know of this advertisement. All answers strictly confidential. Address: Box 28, c/o The Oil Weekly, Houston, Texas.**

■ **Engineer or Physicist to engage in study of reservoir performance as related to physical properties with major oil company. Individual should have aptitude and background to enable the mastering of mathematical analysis of problems in flow of fluids. Position offers good future. Give full personal data, experience and salary desired. Our employees know of this advertisement. All answers strictly confidential. Address: Box 29, c/o The Oil Weekly, Houston, Texas.**

■ **Wanted by a consulting geophysical organization. Petroleum Engineers with Hayward Mudlogging experience or its equivalent. Immediate openings in Venezuela. Excellent opportunity for advancement to managerial positions throughout the world. Address: Box 36, c/o The Oil Weekly, Houston, Texas.**

SITUATION WANTED

■ **Petroleum engineer, graduate with 15 years experience in all branches of production, including field operations, development, valuation, government regulations and research, interested in responsible position with opportunity for improvement. Address: Box 46, c/o The Oil Weekly, Houston, Texas.**

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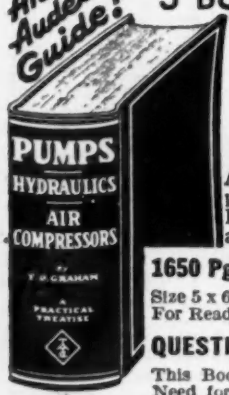

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P10

Squeaks from the Bull Wheel

Privileged Character

Santa Claus is the only man who can run around with an old bag all night and not get talked about.

Tired of It All

"Where to, Colonel?"
"Drive over the cliff, Private. I'm committing suicide."

Good Idea

"John, dear, let's try to keep people from knowing we were just married."
"O. K. You carry the suitcase."

Wasted Hour

She: "That hat Mrs. Jones wore to church today was a scream."
Another she: "Really? I didn't notice it."
First she: "For heaven's sake! What do you go to church for?"

Careful, Toots

Hubby: "Smith is boasting that he has kissed every woman in this apartment building except one."
Wife: "And I'll bet she's that stuck-up Mrs. Murphy upstairs!"

Spirited Race

"You saw a ghost? Honest? What was he doing?"
"Falling behind, boy. Falling behind rapidly!"

The Gentler Way

Little Claude's mother had reluctantly allowed her precious child to attend public school. She gave the teacher a long list of instructions. "My Claude is so sensitive," she explained, "that when he is naughty you mustn't punish him. Just slap the boy next to him. That will frighten Claude."

Stella's Sad Sit-uation

There once was a lady named Stella
Who fell for a bow-legged fella.
But she, the poor sap,
Tried to sit on his lap
And landed ker-plunk in the cella!

The Brushoff

"You're one in a thousand,"
I said to Bee;
"And so are your chances,"
She said to me.

This Curious World

Girdle manufacturers live off the fat of the land.

Tell a man there are 267,543,202 stars and he will believe you, but if a sign says "Fresh Paint" he will make a personal investigation.

He who chases curves often gets the runaround.

Many a man has gone to a stag party and staggered home with a dear on each arm.

For every man over 85 years of age there are seven women—but then it's too late.

The average wife isn't much interested in what her husband is saying unless he's talking to another woman.

Anniversary Blues

The honeymoon is over
Though I loudly do begrudge it—
I've been taken off my pedestal
And placed upon a budget.

Unless Scratched

"How should I bet on a horse named Strip Tease?"
"Play her to show."

Hip, Hip

"The announcer made a bad break on the Kate Smith program last night."
"Keep going."
"When she finished her number he said, 'Now, boys, three chairs for the little girl.'"

And Both on the Hook

"If you're looking for my husband, he's gone fishing. Just walk down to the bridge until you find a pole with a worm on each end."

Otherwise Perfect

Women's faults are many,
Men have only two,
Everything they say
And everything they do.

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ON PAGE 69 OF THIS ISSUE

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Notes for the Equipment Buyer and User

Explosion-Proof Motor

CENTURY ELECTRIC COMPANY

Century Electric Company, 1806 Pine Street, St. Louis 3, Missouri, announces an explosion proof motor for operation in Ethyl Ether Vapors (Class I, Group C).

This motor is constructed to meet the specifications and carry the label of Underwriters Laboratories, Inc., for Class I, Group C installations where the surrounding atmosphere is charged with Ethyl Ether Vapor.

South Chester Tube Firm Opens Philadelphia Office

South Chester Tube Company, Chester, Pennsylvania, has opened an office at 1418 South Penn Square, 14th floor, Finance Building, Philadelphia. Personnel of the office includes Ralph Earle, vice president, South Chester Corporation, a subsidiary of South Chester Tube Company; Francis H. Gibson, general manager of sales; and Clyde M. Abel, purchasing agent.

C. H. Roberts has been appointed manager of orders, and R. E. Wallace assistant general manager of sales, with offices at the Chester plant.

Crane Company Announces New Branch Managers

Effective January 1, Crane Company announced several changes in the management of its branches, due to the retirement of two managers.

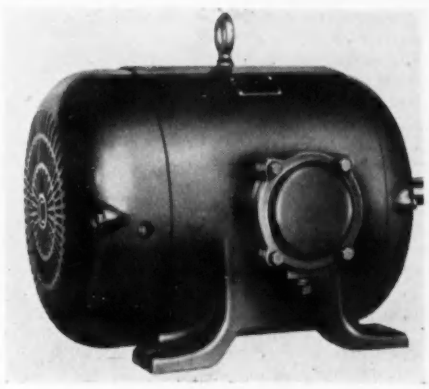
In Los Angeles, D. D. Updegraff, manager since May 1, 1936, has resigned on the advice of his physician to take a rest. He is succeeded by R. E. Penny, manager of the Jacksonville branch since 1941. Penny was manager at San Bernardino and Phoenix before going to Jacksonville.

L. R. Bauer, manager at Brooklyn and New Haven, goes to Jacksonville to succeed Penny. J. J. Murray a planning department analyst at the Chicago works, is appointed manager at New Haven.

In Memphis, Tennessee, F. A. Duncan, manager since April 1, 1922, retires after 43 years. He is succeeded by O. F. Woodyard, former manager at Little Rock, Arkansas, who, in turn is followed by A. C. Gribble, formerly of the Houston branch.

Joins Associated Engineers

Willard A. Schaeffer, Jr., has been placed in charge of the activities of Associated Engineers in West Texas. He is temporarily located at the company's headquarters in Houston, but will move to West Texas later. Schaeffer has worked in the oil fields of the Rocky Mountains, the Mid-Continent, the Gulf Coast and South America since graduating from Missouri School of Mines. He was employed by Shell Oil Company, Inc., in 1926, and resigned as chief exploitation engineer in the Gulf Coast Division in July, 1944. He joined Associated Engineers in September, 1944.



Century Electric Motor

Jones and Laughlin Steel Buys Pennsylvania Tube Plant

Jones and Laughlin Steel Corporation, Pittsburgh, Pennsylvania, has purchased an electric welded tube plant at Oil City, Pennsylvania, from Talon, Incorporated.

The plant has facilities for producing electric welded mechanical and pressure tubing in sizes ⅝-inch to 4-inch outside diameter, inclusive. Its products will supplement Jones and Laughlin's line of products.

The new acquisition will be known as the Electric Weld Tube Division of Jones and Laughlin Steel Corporation and will be operated with present personnel.

U. S. Rubber Company Names Division Sales Managers

United States Rubber Company, Rockefeller Center, New York, announces appointment of H. S. McPherson of St. Louis, Missouri, and W. M. Ballew of Kansas City, Missouri, as division sales managers.

W. M. Ballew

McPherson's territory includes Detroit, Cincinnati, Indianapolis, Chicago, Milwaukee, and St. Louis. Ballew will have charge of mechanical goods sales in Kansas City, Tulsa, Denver, Houston, Dallas, New Orleans, Omaha, and Minneapolis.

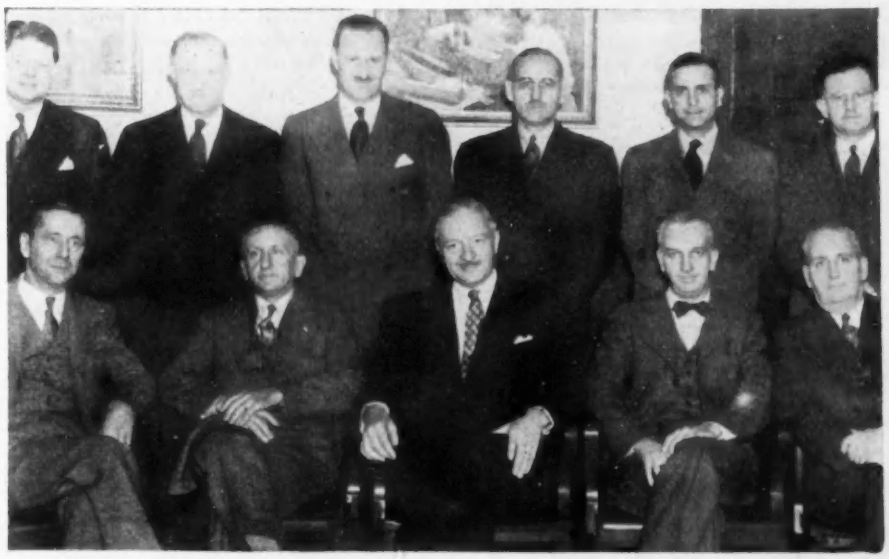
Ballew entered the mechanical goods business in Tulsa, 31 years ago, specializing in products for the oil industry.

McPherson began his rubber career 33 years ago. He was in charge of mechanical goods sales in Boston from 1932 to 1935 and in St. Louis from 1935 until the present.

Thew Official Named

The Thew Shovel Company, Lorain, Ohio, announces appointment of Waid V. Clark as controller. He is a graduate of Cornell University. Prior to his connection with the Thew company, he was with Glenn L. Martin Company, Baltimore.

PEMCO-MERCO Managers Attend Conference



District managers who attended the annual Pittsburgh Equitable Meter Company-Merco Nordsrtom Valve Company sales conference at the Pittsburgh headquarters are shown above. Design, manufacture and distribution as well as national trends and postwar plans were discussed by district managers, factory managers and key men from the company's engineering, sales and executive staff. Pictured, front row, left to right, are H. Boezinger, C. R. Zeskey, Col. W. F. Rockwell, president; A. J. Kerr, general sales manager, M. J. Harper. Back row, W. S. Andrews, C. C. Moore, P. C. Kreuch, M. D. Gilbert, F. C Arens, C K. Madison.

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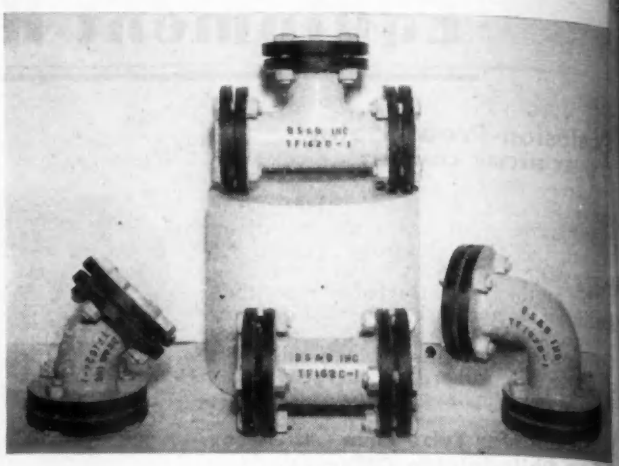
Slip-Union Fittings

BLACK, SIVALLS & BRYSON

Black, Sivalls & Bryson, 2131 Westwood Boulevard, Oklahoma City, Oklahoma, have introduced a line of slip-union fittings said to eliminate many pipe-fitting problems.

The fittings make threads or grooves unnecessary, and eliminate threading apparatus. Each fitting can also be used as a union. Connections need not be accurately lined since the slip-union permits deviation from a straight line up to eight degrees. A crescent wrench is the only tool required to make up with these fittings.

Drilling on the fittings is standard ASA 125 pounds. Conversion from threaded to slip-union connections is easy, as either the fitting itself or the loose flanges can be bolted directly to any flanged standard ASA 125-pound fitting.



Slip-Union Fittings

The fittings are made of heavy cast iron.

Separation of Solids

Merco Centrifugal Company, Hobart Building, San Francisco 4, California, has issued a bulletin, No. 501, describing the separation of suspended solids and the application of Merco centrifugals to the classification of solids by size. An example is the separation of sand and cuttings from rotary drilling mud or the separation of larger particles of sand from the smaller ones such as in the cement process.

☆

M. W. WALTERS, Michigan manager for Sohio Petroleum Company's crude purchasing and gathering division, has resigned to become affiliated with Lakeside Refining Company, Kalamazoo. Walters will be in charge of crude oil purchasing. Walter C. White has been transferred from St. Louis, Missouri, where he has been personnel director for five states, to succeed Walters.

Core Opens Office

Core Laboratories, Incorporated, Dallas, has opened a division office in Jackson, Mississippi.

The new office is located in the John Hart Building with Ralph W. Parnell, division engineer, in charge. The new office is the ninth division office in operation.

☆

S/SGT. PHILIP A. BOWMAN, 22, of Tulsa, a former employe of Stanolind Oil & Gas Company, was reported killed in action June 27, while on a flying mission over Europe.

V. M. VOORHEES, 63, of Grand Rapids, Michigan, president of Voorhees Drilling Company, died December 29. He went to Michigan from Ohio in 1923, two years before the first commercial oil field was opened in the state, and was one of Michigan's leading contractors and producers.

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